

AMERICAN
DENTAL
JOURNAL.

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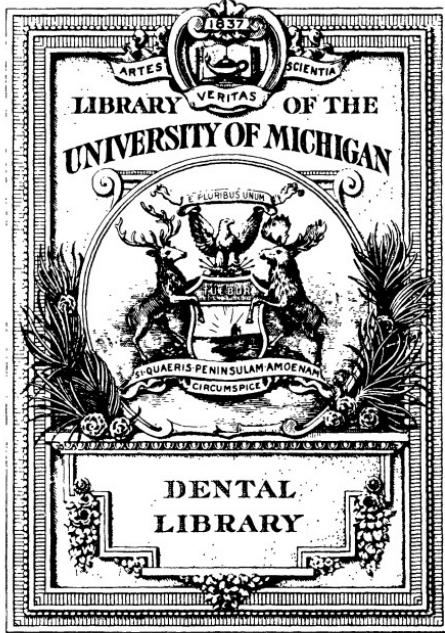


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PRACTICAL DENTISTRY.—The business side, the “get-the-money” end, will be given preference over the deep, theoretical material. Your personal support to a policy of this character will be invaluable since it will admit of obtaining from you such items of a practical nature as will be of importance to many other readers. You are invited to take notice of the several new departures and your earnest co-operation is solicited to the end that the profession as a whole may be benefited and to make this journal a live, present time advocate of the needed reforms—the standard of the quiet and unassuming, though honest and faithful members of the great and honorable calling of dentistry.

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The AMERICAN DENTAL JOURNAL

DR. BERNARD J. CIGRAND, Editor

Published on the fourth of every month by The Ross Dental Manufacturing Company.

Editorials and Comments

"The editor has assumed charge of this journal with the signed understanding that he shall have absolute and unlimited control and supervision of the editorial and literary elements; this unusual grant makes it possible to render the profession an independent periodical; the title page clearly indicates the scope under this new policy of this old established journal."—*Publishers.*

CASTING FETTERS AND YOKES ASIDE.

Of all the memorable dates in the national calendar of the United States, that of Independence day on July 4th is the most conspicuously enjoyed and certainly the most generally observed. The one event in both national as well as individual career which always merits consideration and evokes special commemoration or celebration, that of the day of nativity, the hour of birth, claims the most universal observation.

There is a striking coincidence in the inauguration of a new policy of the American Dental Journal on this, the Fourth day of July, and while, like our nation, it has had its provincial record, its colonial career, it now hopes to enter upon its national existence, including in its policies a broad, tolerant and liberal literary standard, proclaiming itself on this typically American day free from various influences which may have hampered a safer progress and a nobler mission. The Journal will be the spokesman for any form of enterprise which is promissory of rendering better methods of procedure or higher standards of professional advancements. It also announces that in its new and necessary departure it shall deal disinterestedly on every phase of progress which indicates a worthy attribute in the professional

uplift. The policy of according a hearing, of rendering an argument possible and yielding the floor to the earnest pleader, though his case seems adventurous and his cause seems lost, this Journal will be his last court of appeals if his purpose seems honest, if his hopes are sincere, if his labors are earnest and his personal sacrifices unselfish.

The world's history abounds with examples where derision has blocked the path to further human triumphs. The story of every nation is filled with pages showing how those who stood for advancement were mocked. The records of every profession, the law, ministry and medicine, afford bountiful illustrations of how the apostles of progress were jeered and their lives made miserable because they saw more light than their traducers. The flames of Galileo, Columbus, Cromwell and Lincoln are but the human symbols of the great army of individuals who in their earlier attempts at serving the enslaved communities suffered the undescribed pangs of ridicule, shared in injustice of defeats and, undaunted and defiant, carried on the campaign against ignorance, intolerance and bigoted antagonism.

After years of sacrifices, and often only after their bodies had moldered to its original dust form, the masses realized the ingratitude they bequeathed to these mortals who, in truth, were the pathfinders, the beacon lights and saviors.

A word of cheer, a glad hand, and an inexpensive smile may encourage some almost despondent thinker. He may hold in the recesses of his mind the solution of chisel and hammer with which to cut loose the chains upon your own body. Give all men a fair chance; accord them freedom; give them the opportunity to contribute to the arts and sciences, and extend to them the essence of the Declaration of Independence: "That all men are born equal; that they are endowed by their Creator with certain inalienable rights; that among these are Life, Liberty and Happiness."

You may be prosperous. The sun may be in the zenith for you, and life may be serene and all a musical poem. Don't trust to the present alone. Your future is still a blank-paged book. Upon those snow-white leaves Fate may write a story in opposition to your enjoyable dream. The future we can all help to

shape, but not dictate its every form. Hence the welfare of the professional brother becomes your immediate concern.

The fifty-six men who on July Fourth approved the bill of separation were not of a selfish type. Many in that convention were conveniently situated in the world, but they had a care for the country they loved and a hope for the generations unborn. Even the attitude of Washington, John Hancock, Carroll and Robert Morris was quite contrary to what would be best for their private financial interests, as these men were wealthy, affluent and important factors in the government of King George III, but they sought freedom from regal edicts. They longed to be of service to humanity, and cheerfully surrendered to this fate—their lives, property and sacred honor.

There are men in our profession who are situated in the world with sufficient means to live comfortably. The prandial board at the mansion is laden with the fruits and delicacies of the season. They, like the rich delegates in Congress, must show a concern in the further comforts of the less fortunate dental brother and assist in bringing to him and all other practitioners the freedom to serve his profession and the ethical opportunity of carving from his daily life an existence as is in accord with the dignity of a disciple of Hunter, Wells, Alport, Evans and others who have gone to their reward.

A pity and a burning shame that at present and quite common of late years some of our most profound thinkers—those who have donated most valuable solutions, most important methods and most practical procedures—have in their late days, when the sun in the west should take a crimson and peaceful retirement, met clouds of darkness, with bursting lightning, bringing terror to their helpless, stricken forms, weak without blood, fearful without weapon, and hungry without food. They have taken their shrouds about them and without comforting words laid down to the sleep that knows no pain. Right here and now, on this day, let us find the chains that tie good men down. Let us with diligence locate the tyrant that keeps worthy men from enjoying the blessings of their potent imaginations of the student days. With a firm belief that the wisdom of the practitioners and the broad-based institution of dental learning, including the

colleges and the various societies, open and secret, this Journal will devote its pages to the betterment of dental art and science, and accord an equity in the furtherance of all that pertains to harmonizing, unifying and professionalizing the practice of dentistry.

Those who are blinded by self-pride, that all the work is done, that there are no shackles to unlock, that slavery is a myth, are certainly unfamiliar with the evolution of liberty, whose reign in any land, at any time, was only maintained by eternal vigilance. The price that has been paid to continue the march of freedom is the most costly campaign the world has ever waged. Nor is that battle over, for, like an endless struggle, there are those who wish to enslave and those who with heroic effort strive to break the forging chains. The fight is never over—the battle is on. We are the soldiers, and owe it to those who preceded us that we have not relinquished our hold upon the sword or grown indifferent to the gospel preached on the steps of Independence Hall at Philadelphia on that warm, sultry, dusty, cloudless July 4th, 1776.

We have a campaign against ignorance to wage. Let us not be led to believe that we know the field too well, for there like in Napoleon's life, may lurk our defeat—the Waterloo.

We have not yet satisfactorily mastered many of the essential problems of dentistry. The etiology of dental caries is not yet clearly and without considerable doubt accepted. The causation of erosion, pyorrhea alveolaris, and innumerable oral and dental disturbances are still densely clouded equations. Their solution must be in accordance with science, in harmony with truth, and it may be a part of the glory of this generation if we afford freedom to the eager, willing and inspired researcher.

There is yet too much intolerance abroad, too many think themselves the chosen people, and all this lends slavery to the student with the midnight lamp, and makes truth of the lines of Bret Harte, when he wrote:

"If of all words of tongue or pen,
The saddest are: It might have been;
More sad are these we daily see:
It is, but hadn't ought to be."

COMMENTS.

The frontispiece entitled "Questionable Confidence" gives us a splendid idea of the colonial dental surgeon, in his eagerness to demonstrate his ability to remove some distressing member in the oral cavity.

The practitioner has carefully concealed his "turn key." The patient or rather the victim shows questionable confidence, in the fact that her right hand has grasped the wrist of the family dentist. All in all this picture gives us a vivid portrayal of the days when the "turn key" held its sway and the skilled practitioner of this day, as well as his patrons may enjoy the situation since his art and science has been so considerably improved—all of which contributes ease, comfort and real confidence to the suffering patient.

A beautiful three-colored frontispiece of the famous oil painting known as the "Tavern Clinic" will be reproduced in this journal in the near future. It will be an exact reproduction of the original painting from one of the leading art galleries of Germany. The colors will be reproduced in just as effective shades as the original rare oil painting.

This journal will set a pace in Dental journalism by giving its readers each month, a splendid reproduction either in colors or otherwise, of some famous or historic subject. The leading literary journals can afford to give their readers such ocular luxury because of two reasons: First, the enormous paid-up subscription list and second, on account of the enormous revenue obtained from their advertising space. The time has come when it is believed that high appreciation from the dentists would indicate that they welcome this higher art standard of their professional journals. In view of this it has been decided to undertake this expensive method of producing a high class literary, technical and artistic journal. Show your appreciation, give support to this new departure in Dental journalism by seeing that your subscription is paid-up for the current year.

It is clearly stated in the heading of these editorial columns that absolute freedom in the editorial and substance construction of the journal will be the future policy. The contributed matter as well as the special feature departments will be maintained on a high and commendable basis. The many new features which have been added, has been done with the view toward this Dental Journal such a publication as the average general practitioner has felt the need of.

SPECIAL CONTRIBUTIONS.

WHAT DO THE DENTAL LAWS AMOUNT TO? WHO IS TO BLAME?

By Clarence Edgar Caulkins, M. D. S., Bridgeport, Conn.

[If you are of the opinion that dental laws are without fault and that educational opportunities are offered to the deserving youth, read this article.—EDITOR.]

It is so natural to criticise without being able to propose a remedy, so easy to find fault without possessing the ability to demonstrate a better method, and so "human" to knock instead of boost, that before answering the question that heads this article it seems to me worth while to look into the matter of what laws, and especially dental laws, ought to be and make a reply to the query according to whether legislation now existing fulfills the conditions or not.

First, then: A dental law ought to be constitutional. That is, right and justice and law itself demand that it be in accord with the principles of that fundamental law of the land that, until changed, defines the boundaries within which citizens of the country and states may enjoy "life, liberty and the pursuit of happiness." If, then, a dental law fulfill this primary condition, it must be so framed as to protect the public health, safety and morals, as it is practically upon these grounds alone that this class of laws are authorized by the Constitution.

Secondly: A dental law should, in protecting the public, include the dentist within its protection, and while so framed as to protect the general public from incompetent, dishonest, immoral, unscrupulous and ignorant dentists, still allow the seeker after the right to "earn his living" by the practice of dentistry every facility possible for attaining and enjoying that right compatible with a reasonable fulfillment of its primary purpose, and should protect him against any arbitrary or unreasonable demands that unauthorized persons or groups of persons might wish to impose.

Further yet, a dental law should, as far as possible, impose no financial burden upon either the layman or the profession other than those they do and should carry as citizens. Also, dental leg-

isolation should be so explicit as to what constitutes proof of proper qualifications for the practice of dentistry and what constitutes violations of its provisions that there would be no just cause for crying favoritism in the first instance, nor any excuse for allowing evasions or violations to continue in the second. Thus, the seeker after a dental license could know that his success depended upon his compliance with the mandates of the law and nothing else. While those whose inclinations might be to evade or violate the law would know that efforts to do so would be futile and probably disastrous.

I might add as a postscript that an "ideal" dental law would be one that could be quickly and surely invoked, if occasion arose, and would help, rather than hinder, those who sought to comply with its provisions, while securely safeguarding the public health and safety.

With this picture of what a dental law should be in mind, let us see how legislation as it now exists compares.

First, as to protection of the public.

It is self-evident that "protection" means primarily that the dentist must possess sufficient knowledge to approximate a correct diagnosis of the diseases he treats, and be skillful enough to perform the operations indicated with a fair approach to perfection.

Secondly, it means that the practitioner should be honest, moral and scrupulous in making his diagnosis and executing the operations his knowledge indicates as proper. In one word, the dentist should be "ethical"! Herbert Spencer defines this word in a fairly authoritative manner, so I shall not try to do so, nor shall I allow or advise others to allow the Dental Society idea of "ethics" as at present held to be the interpretation given to that much-abused term.

The question now presents as to whether the various state laws relating to the practice of dentistry fulfill either of these primary conditions for the protection of the public.

A candid reply to this query must be "Yes," in so far as they have in the past, and do now, deter many a Tom, Dick and Harry that has the inclination from freely trying his hand at performing dental operations, and while so doing pretend he is

fully qualified to advise and operate, while an equally candid answer must be "No," if we consider the many whom inclination, fond parents, or a mistaken notion of what dentistry is, has caused to make a start toward a dental education and who cannot and do not acquire the knowledge or skill necessary for even fair treatment of dental ills; who nevertheless secure their diplomas and licenses and, legally pronounced competent, prove by their entire professional life that they are positively not qualified, and that consequently the law has not protected the public from incompetent practitioners, but has rather injured it by giving it reason to think some one was qualified who was not.

A candid answer to the query must be "Yes," if and in so far as dishonest, unscrupulous and immoral applicants for license have been rejected, and with equal force "No" when we see the undoubtedly conscienceless applicant acquire the same legal rights that his admittedly honorable fellow can and does.

Would add, incidentally, that this secondary element of protection is perhaps impossible of attainment to any degree of perfection, but surely there could be a great improvement over present conditions, under which those dental boards I have approached in the matter reply that they are an "examining" board merely, and not an "investigating" one, and that when papers and diplomas are presented stating that the applicant is thus and so they accept them at their face value, unless complaint is made by others. A rather inadequate method of "protection" for the law to allow, it seems to me, and one that might easily be remedied to some extent at least.

The second phase of the "ideal" dental law deals with the protection of the dentist, both actual and prospective. The ideal dental law would, first of all, protect the prospective dentist while studying, and assist him in his efforts to secure the right to practice. I feel assured that all will grant that dentistry is, as a whole, a necessity. That those who engage in it are deserving of their hire, and that even the best paid older members of the profession are, in comparison with those in other professions and businesses, only moderately remunerated for their years of effort, study and experience. It will, I feel confident, also be granted that thirty years constitutes the longest average period during

which a dentist may expect to maintain active, profitable practice, and that several of these years will be used in acquiring a practice and paying for office, furnishings, etc. The ideal law would then, first of all, be one that could by no possibility be enforced in a manner that would deprive a man of the opportunity to practice for one moment except that absolutely necessary for him to employ to properly qualify himself. The perfect protection of the public demands that this necessity be supplied; that of the dentist that he be allowed to engage in practice without any avoidable delay if he is to supply that necessity for other than philanthropic reasons, and is to have a reasonable number of years in which to secure a competence that will provide for a fair degree of comfort for him and his in the "latter days" of life.

Do the dental laws as they now exist provide this facility? The answer is emphatically "No." True, they nominally specify only that the prospective dentist submit to an examination that will demonstrate his ability: But, directly or indirectly, they, with a very few possible exceptions, specify that before he or she shall be eligible for that examination a certain minimum FIXED PERIOD OF TIME must be spent at one or more of a certain number of specified places for the purpose of becoming proficient, and that even then those complying shall only be entitled to examination, and not accepted as competent upon the certificate that must be presented stating that he or she is so, and given, or sold, rather, by the institution or institutions the law has already compelled him or her to attend.

This is not a diatribe against dental colleges or college education, nor the requirements those praiseworthy institutions exact before they grant their degrees and diplomas. It is, however, a protest against the legal requirements that so generally compel one to spend the time and money necessary to fulfill those conditions, only to afterwards refuse such a one a license to practice entirely, or delay granting it for from six months to several years while the knowledge or knack necessary to successfully pass the state board's examinations is acquired, as it frequently is, in the office of some dentist by practice on the "defenseless" public and contrary to the demands of the law.

Colleges should exist. Their requirements should be such

that every graduate would be thoroughly proficient to commence that practice of his chosen profession. But law should not compel attendance thereat, nor graduation therefrom as a preliminary to examination for a license, but should say to every one who desires a license: Prove your qualifications and you may have it, no matter where, when or how long you have been obtaining your knowledge and skill. Only remember, we grant a license to none knowingly who have obtained this skill in operations or knowledge that admits of correct diagnosis in any other manner than those prescribed for the proper protection of the public. Then the law should specify "methods" by which this knowledge and skill could be obtained, but under no circumstance permit, as they so often now do, some group of persons, legally unsupervised and uncontrolled, to directly or indirectly specify the places where, minimum time in which, or fees that must be paid before it is possible to acquire a legal right to be admitted to examination.

The question of protection for the fully qualified dentist is next in order for discussion.

The dental law should definitely protect him in his practice. It should allow for a measure of justifiable mistakes, both of diagnosis and technique, and provide definite boundaries which if observed by the operator would render him safe from either direct blackmail or damages, or that indirect financial injury that at present almost invariably accompanies public knowledge of mistakes or failure, whether they be justifiable or not.

The dental law should further provide some protection for the dentist in the matter of collecting for services performed or time lost through the fault of the patient more than he now has. In both these matters present dental laws fail lamentably. They, nominally at least, demand that a man shall possess certain especial qualifications, confine his efforts to prescribed fields, and restrict him, as they rightly should, in his choice of employees, and necessarily have a tendency to limit his "business" to a certain extent, but do not in the least protect the public from exorbitant fees, on the one hand, nor enable the dentist to collect a just remuneration for his services on the other. This matter would perhaps be left untouched, were it not for the amount of dam-

ages dentists rather frequently are called on to pay for oftentimes excusable accidents, and the further fact that under the general law he is very poorly protected from those who wish to defraud him, or in few words, refuse to pay his fees.

Finally, though the various parts of the question are so closely interwoven that a definite separation between them is hard to maintain, if the dental law should not impose any financial burdens on the dentist other than those he should carry as a citizen, and if, further, dental laws are enacted primarily for the protection of the public—if, I say, these things are so, the present laws fail in that they impose a definite expense that is patently for no other purpose than that of paying, or partly paying, the expense accompanying that protection. It would be just as logical for the state to demand that a person arrested for some supposed misdeed and desirous of the privilege of perfect liberty to again commence to "earn his living," pay a certain sum before he be granted a trial to prove his right to such liberty as it is to demand of the prospective dentist that he pay part of the expense of his trial, and when, as has been the case in some states in the past, these fees were turned over to some dental society, it was nothing more than legalized robbery, unless my idea of the matter is absolutely erroneous.

The quality of being definite is one that all legal enactments seem to lack, but there is no good reason why dental laws should not be so framed as to at least help the worthy and deter those unworthy from entering upon a practice. Nor is there, further, any good reason why favoritism that undeniably does exist to some extent, and evasions that do occur, be allowed to continue according to how a certain few may feel about the matter.

Lest that statement that favoritism is allowed be questioned by some, will remind such a critic that the so-called "Asheville resolution" is one concrete example that partiality is allowed to exist without any question. Adopted entirely without legal authority, many laws are so framed that those complying with the mandates of the resolution are granted privileges that are, to be exact I should say may be, withheld from and denied others just as competent and just as legally entitled to all benefits, whose choice, necessity or good fortune has debarred from complying

with the conditions imposed therein. When, further, a condition imposed by that resolution is found to be the "approval" in some form or other of a dental society, and when, still further, the condition for membership in and approval by the societies is that the applicant for such must not be an advertiser (rather, shall not buy and pay for his advertising), it gives affairs a rather questionable aspect.

To sum up, then, dental laws at present do not protect the public or the profession to any appreciable extent.

They do allow incompetent men to secure licenses that give them the legal right to pose as qualified dentists.

They demand of the dental student that he comply with rules and conditions, spend the time and pay the fees exacted by men who are under no direct legal supervision.

They allow evasions and violations to continue if the evader or violator is "in right," and allow persecutions to be made if he is "in wrong."

They allow favoritism to be shown and permit partiality to exist.

They allow privileges to be extended to "society" men that are withheld from "non-society" dentists.

They hedge the practice of dentistry with needless restriction, hamper the student who may wish to enter upon a practice with burdensome expense and crying, "The public must be protected," contain provisions that defeat that identical result.

To cap the climax of the whole matter, they have been enacted, by every evidence that can be produced, at the behest of or under the supervision of the dental societies, who have aimed solely at securing legislation that would favor their members at the expense of the rest of the profession, and give to them the entire control of what should be a public matter, regulated and directed by legally empowered representatives of the people, not by a few selfish, self-constituted, self-styled "ethical" dentists.

Who is to blame for these conditions?

I thought once it was the other fellow. As I investigated I found I had some responsibility in the matter. This effort is part of an attempt to shoulder my share of the work of changing things. If dentists care to forget their own struggles to the ex-

tent that they do not care how hard it may be for some one else to secure equal rights with themselves; if they are so narrow-minded and foolish as to really want to see the number of (skillful) dentists restricted; if they prefer to kow-tow to some dental society and depend upon the good will of some prominent society man for a large share of their patients—well and good. They are not complaining about things. Let them crawl and admire and adore.

There are a growing number of live, independent men, however, who find that the laws needlessly hamper them in their business endeavors; that they are unjust to the young men they would like to employ—skillful, industrious, honest and competent young men, able and willing to pass any state examination that has ever been demanded.

They are about tired of society ways. They are to blame for the present state of affairs. They may be to blame for the changes that are surely coming.

WILL IT HURT?

When the patient's ushered in, wearing either frown or grin,

Whether doleful, jovial, miserable, or pert,

You may bet your rubber dam that he or she will slam

That everlasting question, Will it hurt?

The buzzer gives them thrills, nerve brooch induces chills;

At times the simple effort to insert

Your gentle finger tips past tightly compressed lips,

Will bring the nasal question, Will it hurt?

When your patient gets a sight of your forceps clean and bright,

For trouble you will find her quite alert.

She says "her heart is weak;" she knows she'll have to shriek;

And again is fired the question, Will it hurt?

"I know I look a fright; I've been awake all night;

I should have come long since," she will assert:

"But the thought just takes my breath. I'm really scared to death,

So do be careful, Doctor. Will it hurt?"

"Say, Doc, yank out this 'snag.' I've got a partial 'jag.'

Just got it for this visit? Sure, Doc, cert.

The darned thing's raising Cain—can't stand for any pain.

WOW! Doc, go mighty easy. Will it hurt?"

When my last appointment's made when I am just a "shade;"

When the keeper of the "roaster" calls out curt:

"Take that vacant red-hot spot; it's the coolest space I've got,"

I suppose I'll squirm and ask him, WILL IT HURT?

A. S. Greenwood, D. D. S.

DENTAL IDENTIFICATION—A CIVIC SERVICE.

By Bernard J. Cigrand, M. S., D. D. S.

[If the reader is in possession of any additional information, where the teeth became evidence of identification, in either the dead or the living, please mail same to the editor and oblige.—EDITOR.]

That the record which a dentist enters of the professional work done is of both dental as well as civic service, may seem strange, yet this article is intended to demonstrate that the practitioner who makes a record of his services does, aside from the professional phase, a most valuable service to the community.

It may not be generally known that the body of Dr. Joseph Warren of revolutionary fame was identified by a dentist, and through this aid it was possible for Massachusetts to accord this great patriot a lasting monument. In the *Plexus* of November, 1904, page 1191, I published the following: "The first instance when a skeleton was given personal identification by means of the dental conditions, as attested to by a dentist, occurred in this country something more than a century ago. The great patriot and hero, Paul Revere, an engraver by profession, devoted much time to the prosthetic division of dentistry. He constructed metal base dentures and was interested in carving and designing artificial teeth.

"When the remains of the patriot and soldier, Dr. Warren, were removed from Bunker Hill battle field to their present resting place it was Paul Revere who made the identification, recognizing the partial denture which he had constructed some years

previous to the general's death and minutely describing his natural remaining teeth."

History shows that Paul Revere was a practicing dentist, and that he was recognized as such a practitioner by the people of his time, and historians of late, after carefully inquiring into his varied career, classify him as a dentist. References abound in support of this declaration. In any event it was evidently the earliest dental identification of a body by a dentist, and the civil authorities so recognized the public, and in this instance not a dental, service.

In the Dental Summary of 1909, on page 775, Dr. H. J. Ambler, Cleveland, Ohio, writes: "General Warren was killed at the battle of Bunker Hill and his body was identified by Dr. Jerrfries, an M. D., because one of his incisors was broken off obliquely in early life. Another says that his remains were recognized on account of a false tooth" (made by Paul Revere). According to this report, Dr. Warren was identified by two professional practitioners, one the dentist who made the artificial substitute and the other his physician.

The Dr. Warren case was not the earliest identification in the history of America which depended on the recognition of the condition of the dental organs, as is well illustrated in the following article which occupied an entire page in the Inter Ocean of Chicago on Sunday, August 16, 1908. In this article I gave a lengthy account of the remarkable identification of a distinguished Britisher, who had come to the colonies to serve in the miliatary campaign against the French. The item, which is especially interesting to the dental profession, reads as follows:

"The Braddock battlefield was indeed the most direful sight ever witnessed in America. The fleeing British feared to return to bury the dead or care for the injured, while the French and Indians returned to the fort, disregarding the ceremonial of burial or even the mechanical task of placing earth over the decomposing bodies. The heat of the following days only hastened the disintegration, and the fowl of the air vulturized undisturbed. Of the once grand army of Braddock, numbering 1,200, over 700 were thus left exposed to the animal life of the wilderness, and when the scenes of burial did take place, the task was

but superficially accomplished, nearly three years after the date of the battle, by General Forbes, who with 8,000 men captured in 1758 Fort DuQuesne, which he then named Fort Pitt. Leaving some 200 men in the fort, he wended his way back to Philadelphia and marching over the old battle ground of Braddock, he performed, as he noted, a sacred duty by 'paying a last, though late, tribute to the memory of these dead. I had their bones, which lay bleaching on the ground, consigned to Mother Earth.'

"Among the distinguished men who were killed in the Braddock rout was Sir Peter Halket, second in command of the Braddock forces. With General Forbes came the second Sir Peter Halket, a major in the campaign of 1758. He came to America primarily to ascertain the exact and sad fate of his father, a lingering hope haunting his soul that his noble father and his brother might be captives among the Indians, and he decided his visit to be both military and humane. Accordingly he, with a company of Pennsylvania riflemen under Captain West, brother of Benjamin West, famous painter, in company with a squad of Indians who were in that 'bloody afternoon' fight, set out to identify, if possible, the father and son. The Indians regarded the expedition of search with religious awe, and when they came to the field of battle and observed these hundreds of skeletons, many with heads dismembered, they made peculiar gestures, which translated into English told the party that wild beasts of the forest had devoured scores of these dead; and when they found skeletons lying across fallen trees the Indians said: 'Wounded, but died of hunger.'

"One of the Indian chiefs then told Halket that he remembered an officer who looked like Major Halket fell at a point where there was a strangely formed tree, which, if it stood still, he would have no difficulty in recognizing. Suddenly and with a shrill cry this Indian bounded among the trees and pointed out the old landmark of the battle. Beneath its leafy branches lay, other, but no sign was evident to distinguish them from the other hundreds scattered about. Quite bewildered what next to do, under a bed of dry leaves, two gaunt skeletons, one across the Sir Peter recollect that his father wore an artificial tooth, and forthwith the party carefully separated the bones and, to their

surprise, found the jaw with that peculiar dental substitute. Whereupon, Sir Peter exclaimed: 'It is my father!' as he fell to the ground in a faint. The smaller skeleton was that of the faithful son, who evidently fought at his father's side, and when the former fell the lad remained, possibly mortally wounded, and drew himself upon his dead father's body, where he died upon the breast of him whom above all else he loved. The party had all reached the same conclusion. Even the Indians, with tears in their eyes, saw the tragedy with the same clearness.

"A grave was dug and, wrapped in Sir Peter's Highland plaid, the two who in death were not divided, were interred in crucial form, amid a most solemn unceremonial rite. The Episcopal dirges, the rumbling of several musket balls and the quiet prayer must indeed have been a sacred scene in this vine-covered, quiet and holy God's acre. A huge stone from the hillside was brought forth and located as the marker.

"Thus, remote from the dust of their ancestors, unnoted by tomb or monument, sleep the hundreds who laid down their lives for the onward march of liberty. Not all were consigned to the grave, and even in this late day the tillers of the soil plow up the bones of these sainted dead. Tokens of various descriptions annually make their appearance at the spring plowing, and among the noteworthy finds was the watch charm of Colonel Washington, lost during the fiercely fought (battle) fight. The charm was his signet or seal."

The practitioner little dreams of the importance of his record from the standpoint of the civic service; but if he is reminded that in our own country hundreds of people have been identified and by this means given over to the hands and care of the real relatives, rendering to these stricken relations an unusual and worthy service, he would be more concerned in the definite and exact entries on his books of not alone the work which he performs, but a record of the works of other dentists, and by this accurate record be of definite aid in identifying the remains of bodies which by no other means could be certified.

The great fire of the Iroquois Theater, which with all its horrors and indescribable suspense had an unusual comfort in the fact that hundreds of these unfortunates could not have a

family burial, had it not been for the dental records which dentists supplied and unmistakably identified. By this civic service the parents, the relatives, the friends and in some few instances the community were permitted to claim the dead and render in their respective names the funeral services and accord to their graves the correct marker and monument. Little did the professional dentist think when he recorded the character of his work that he would some day come to the civic call of pronouncing the dead by the legal name, and have the state authorities receive his testimony as the final court of identification.

This stamps the services of a dentist in a higher and more important character than he had been conscious of attaining, and the result is that with a due and higher appreciation of his civic service he will be more anxious to make his entries accurate and, further, may receive a consideration at the hands of the authorities which he now does not command, because it is not generally known that his records are of value in this particular.

In criminal cases, too, the service of the dental record is playing a more important place than in days gone by. In fact, this phase of our service is being recognized as of a dual character in that both the murderer and his victim can be identified by the dental record. Possibly the most prominent case on the criminal records is that brought out in the trial of the murderer of Dr. George Parkman, a noted millionaire of Boston, by Professor John W. Webster of Harvard. This exciting and remarkable murder trial took place in 1849, and the attorneys were the ablest that the East afforded. The high position of both the victim and the murderer, the outburst of national surprise at so dastardly a crime, as well as the astonishing lack of direct evidence, make this one of the truly wonderful dental identifications. The remains of Dr. Parkman were indeed unsatisfactory from the standpoint of anatomical proof. The body had been practically cremated and only a few remains of the bones and something of the artificial teeth were found in the refuse. The case lasted for days and days, the testimony of direct examination covering nearly two weeks, and there were upwards of one hundred witnesses on the stand, all employed to make or to break circumstantial evidence. But in the entire history of American crim-

inal records the importance of dental records does not exceed that brought out in this famous trial. Hundreds of hours had been taken in establishing the identity of the remains, and the public, as well as the jury, were exhausted in their anxiety to fathom the horror and to bring a direct testimony for the state. Finally his dentist was called to the stand, having previously been given the artificial dental substitutes as a basis of his testimony. The evidence of Dr. Cooley Keep, his dentist, set aside all the circumstantial evidence as to the identification of the remains by this short, decisive and conclusive sentence: "These are the teeth of Dr. George Parkman." This sentence led to the confession of the murderer, Professor J. W. Webster, and ended the most remarkable circumstantial evidence trial as based on dental identification which is found in the annals of our country.

Dr. Ottolengue of New York also has contributed considerably to the general progress of dentistry, and has written me the following under date of April 14, 1910:

"I have written several novels and twenty or more short stories. G. P. Putnam's Sons of this city have published for me in book form 'An Artist in Crime,' 'A Modern Wizard,' 'The Conflict of Evidence,' 'The Crime of the Century'; also a book of short stories under the title of 'Final Proof.' In this book the first story, entitled 'The Phoenix of Crime,' was really a novelle, covering over a hundred pages. In it the identification of a dead body is accomplished even after cremation by examining the so-called ashes, collecting the teeth and registering on a dental chart those which were found to have cavities, as well as the roots of those still held together by partly destroyed bridgework. This idea came to me when I had occasion once to transfer the cremated remains of a friend from one urn to another, and I discovered all of the teeth practically intact except that the fillings had been melted out of the cavities; but the platinum framework of the bridgework had retained its form, the porcelain of the teeth being only slightly melted. Shortly after the publication of this story the body of a murdered girl was discovered in one of our suburban towns, and it was at first supposed to be a girl who disappeared some ten days previously. A doubt, how-

ever, arose and her identification was established by making a dental chart of her teeth, as suggested in the story.

"My novel, '*An Artist in Crime*,' in addition to being published in this country, was published in England, was published in an English edition in Germany, and consequently was translated and published in a German edition. This German version was subsequently published in one of the German papers in New York city. The story was also translated into French and published in Paris.

"In my novel, '*A Modern Wizard*,' there is a fairly complete account of a murder trial, in the course of which the prosecuting attorney explains the relative value of circumstantial evidence as compared with material evidence. A legal writer in Colorado did me the honor of quoting my definition of circumstantial evidence into a text book on criminal law. On another occasion, in an important trial in Philadelphia, the district attorney read this entire passage from my book to the jury."

History abounds with similar cases, where every vestage and every vascular and oseous tissue was destroyed either by fire or by the process of decay, yet the dental organs were in perfect preservation. In some instances, all human material was disintegrated, and even the teeth destroyed by the elements, and dental substitutes were still in existence and lead to the identification.

All this goes to demonstrate the important function the dental practitioner plays in not alone his strictly professional way, but in the civic or popular service attitude.

If a proper appreciation were accorded to the procedures of dental identification, not only would we have a mere record of the dental services we perform, but we would be impelled, if paid, to enter a record of the other dental conditions as relates to missing teeth and the dental work of other operators. To this we would add a date and insert the card in an index for ready reference. This important feature of dental identification might, and with no great task, be improved by filing away a model of both the upper and lower maxillary conditions, and thus have an unmistakable record of the individual. This form of registry would be essential for men who are about to undertake some

hazardous task where life is quite likely to be subjected to the severities, such as in war or exploration.

When you stand before the government monuments on the fields of battle which since have become the national cemeteries and observe the markers, huge and small, designated, "To the Unknown Dead," the thought comes, why this impossibility of identification? The answer from the government came: "Because there was nothing upon which to found identification when the government finally determined regular burial."

Here, then, comes the true and civic service of the dentist. Why should not all the generals, the under officers, be subjected to some dental surgeon or dental operator, either prosthetic or operative practitioner, and have a correct chart made of his dental organs, and also a model in plaster, all of which could be filed away with the surgeon general's office or the divisional general's headquarters. A similar chart of the soldiers in both the regular and the state military divisions could be enforced. The value of such a procedure is far beyond the estimate of any person's imagination. The work should be quickly and accurately accomplished, and the dental practitioner in the army would be of invaluable aid when it came to identifying the dead general or his soldier boys. This work belongs to us. We can inaugurate much in the field of civics, and it is not for us to wait until the public comes to us and urges these things, for they are not familiar with our capacities and are not in a position to contemplate our fields of operation.

In countless other ways would a dental record be of service in a civic way. People who are about to journey across the seas and be subjected to varied and uncertain dangerous conditions and circumstances would be wise to have such a record made, the value of which would possibly make it certain for them to be buried in a family lot.

The horrors at San Francisco, the theater calamities of the world and the volcanic eruptions—all these great worldly disturbances bring the subject of dental identification to the surface. Let us give the matter some thought from this phase, since the dental side has received considerable attention in the past.

EUROPEAN PROGRESS.

A NEW METHOD OF ANESTHETIZING THE DENTAL PULP.

The method advocated by the author consists in employing a solution of 1 centigramme of cocaine together with one drop of hydrochlorate of advenalin in one cc. of distilled water. This weak solution has been almost always found to be efficacious, and involves none of the inconveniences, syncopes, etc., connected with the use of cocaine. Since considerable pressure is to be exerted, a solid tight syringe is required.

The place of the injection is the inter-dental space, where the needle can be most easily introduced nearest to the apex. The needle glides along the root as far as possible, until it is lodged between the two osseous planes and considerable resistance to the injection of the liquid is felt. On account of the limited space into which the liquid must penetrate, the injection is made very slowly. Its successful penetration is indicated by the appearance of a whitish zone at the level of the inter-dental space.

A few minutes after the injection, anesthesia is complete and generally lasts over fifteen minutes, which gives the operator time to painlessly remove the pulp.

For sensitive dentine in superficial cavities, in the region of the cervical edge the author recommends erythrophlien, mixed with equal parts of eugenol; this is inserted into the cavity, which has been previously dehydrated, on a minute piece of cotton, and sealed with gutta percha or cement. The cotton is left in the cavity for twenty-four hours to forty-eight hours. The drug possesses a very intense vaso-constrictor action upon the vessels of the pulp, which produces total anemia and subsequent anesthesia of the pulp.

While realizing the dangers involved in the application of cocaine in the proximity of the pulp, which might produce an acute pulpitis, the author recommends the above method in caries of the third degree. Only in persons of about 40 years of age, in whom the teeth are short and very firmly implanted, the pulp was found to retain its vitality after the injection.

The hemorrhage following the extraction of the pulp is

stopped by firmly packing in the root-canal a cotton fibre, which if necessary may be saturated with trichloracetic acid.

The following remarkable case illustrates the fact that dentists should invariably be most careful in the disinfection of their instruments, preferably by boiling. It also furnishes an excellent example of the unexpected ways in which a chancre may be caused, and may serve to emphasize the contention that mechanics should at once cease their highly reprehensible practice of placing trimmed-off wax in the mouth, often immediately after the wax-up denture is returned to the workroom, after having been tried in the patient's mouth.

A full description of the case will be found in the Bulletin du Syndicat des Chirurgiens Dentistes de France. Following is in a few words the contents of the case: A medical man was consulted by a youth 12 years of age, who complained of a swelling of his nose. The first impression was that the lesion was an abscess, but later it turned out to be an undoubted hard chancre of the nase-labial sulcus with surrounding induration. Upon careful inquiry it was ascertained that the lad was a mechanical apprentice to a dentist. He had acquired the deplorable habit, said to be common to other mechanics, of finishing off the polish on his instruments by rubbing them upon the side of his nose. By an unlucky chance one of the dentist's patients was actively syphilitic. Simple contact with the patient's buccal mucosa and secretions when the secondary eruption was fully out had infected the tools, and one of these had in turn led to transmission of the infection to the unlucky lad.

PAINLESS DENTAL DISEASE AS A CASE OF NEURASTHENIA AND INSANITY.

(*The Dental Surgeon*, London, Oct. 30th, 1909.)

The multiplicity of casual factors to which the development of neurasthenia and of insanity is attributed is an indication of our ignorance on the subject. That cause and effect are integrally related is axiomatic, but when the same effect apparently is produced by a variety of causes, we begin to doubt the genuineness of the latter, and feel that we have not advanced far in the matter of etiology.

It has long been known that irregular teeth are common in the insane and among habitual criminals, as well as in the epileptic, but hitherto it seems that there has been no attempt to establish or to disprove a casual connection between dental affections and nervous mental diseases.

Irregularity of the teeth has been regarded as one of the stigmata of degeneration, a group of anatomical and physiological peculiarities which is constantly being added to in a curiously unscientific way, and they have usually been considered as the outward expression of some unknown constitutional tare.

It has remained for Dr. Henry S. Upson, Professor of Neurology in the Western Reserve Medical School of Cleveland, to suggest that dental trouble may be the actual cause of certain cases of neurasthenia and insanity. In the Cleveland Medical Journal for August he adduces interesting, if not altogether convincing, facts in support of his somewhat novel views.

One of the simplest dental lesion is impaction. When a tooth is formed in the maxilla with its axis wrongly directed it is often prevented by impaction against another tooth from appearing outside the bone or through the gum. The result in some instances is severe toothache or neuralgia, but in most cases no such pain is present.

Systematic examination with the help of the X-rays of a large number of patients in three of the State Hospitals revealed a considerable number of cases of impaction among patients suffering from one or other of the psychosis. Prompt recovery from insomnia and melancholia after the relief of dental lesions in a few led Dr. Upson to prosecute his enquiry more widely, and in his paper he records numbers of cases in which definite nervous and mental symptoms vanished at varying intervals after a visit to the dentist.

A series of excellent X-ray photographs illustrates the type of dental affection-impaction, the removal of which seems to have been followed by such beneficial results. We cannot doubt the reality of the improvement achieved, although it is permissible to question the accuracy of the nervous or mental diagnosis in some instances. Further, when we consider the extent of our actual dental knowledge, such a statement as "of all cases of neurasthenia

and the psychosis, not due to obvious physical causes, such as digestive disorders and eye-strain, the great majority, possibly four-fifths in men and three-fifths in women, are due to dental diseases," is a little too sanguine, even when we admit the enthusiasm of a worker in a new field of research.

The phenomenon of reflex irritation is accountable for much in nervous symptomatology, and no therapeusis is sufficient which ignores obvious sources of irritation, such as adenoids, dental caries, balanitis and perputial adhesions, aural mischief, astigmatism, and so on; but Dr. Upson maintains that impaction commonly occurs without any symptoms, in particular without pain, and yet we are asked to recognize it as a *causa vera* of dementia praecox, melancholia, manic-depressive insanity, neurasthenia, the psychosis, and what not.

Of course, in many dental affections pain may be the exception, although reflex irritation may all the time be at work, but as a rule, the latter shows itself in local reactions merely, such as facial neuralgia, and more generally as headache and sleeplessness. Whether to its action more profound disturbances are to be attributed remains to be seen, and Dr. Upson is himself conscious of the need for further investigation so that the evidence be deemed conclusive.—*Lancet*.

TREATMENT OF APHTHAE.

(*L'Odontologie*, Paris, Nov. 15th, 1909.)

Aphthae when not associated with grave constitutional affections, such as aphthous stomatitis or aphthae fever, is considered as a mild affection which may be very painful to the subject and it may also become very annoying on account of its frequent reappearance in certain cases and with certain subjects.

The therapeutic of aphthae, according to M. Fargin-Fayolle, should be of the same nature as that of the soft chancre, that is, the immediate transformation of a specific ulceration into a commonly termed canere sore which will readily heal with a treatment of silver-nitrate or chromic acid. But unfortunately, these agents will not generally destroy the depth of the ulceration.

The electro-cautery may be used successfully as to the cure, but its application is indeed very painful.

On the contrary, the destruction of aphthae may be effected painless by the use of sulphuric acid of Nordhausen. Its application will give immediate relief, its mode of application only requires a little care.

Cauterization with two pencils, as advocated by M. Sabouraud in the local treatment of fungous or ulcerous scrofulo-dermatitis, applied to the treatment of aphthae by M. Fargin-Fayolle, gives good results.

This treatment consists in a double cauterization using the two pencils. First by using the silver-nitrate pencil and the second with the metallic zinc pencil. The affected part is first touched with the silver-nitrate pencil, this area will soon take a whitish tint which will rapidly be followed by a black coloration as soon as the zinc pencil is applied. This is due to the double decomposition which takes place giving rise to formation to free nitric acid.

The zinc pencil, following this should be thoroughly washed.

The use of trichloracetic acid or of the acid nitrate of mercury may give excellent results, but their use is very dangerous.—(*Revue de Dermatologic*, Aug., 1909.)

ON THE TREATMENT OF APHTHAE WITH LOCAL APPLICATIONS OF FORMOL.

(*L'Odontologie*, Paris, Nov. 15th, 1909.)

Dr. Dessirier of Lyon, preconises Formol in the treatment of aphthae. The advantage of this treatment is to rapidly heal and to bring upon prompt cicatrization of aphthae.

This treatment consists of a local application with a peldget of cotton saturated with a 40 per cent solution of formol, taking care to previously dry the ulceration before applying the formol solution.

The first application will cause a sharp pain which will soon pass away and will not return. This anesthetic action of formol is quite remarkable, the movements of the lips, speech, and mastication will be preformed with much more ease after the first treatment. Very few applications will effect a cure. In order to cover the unpleasant taste of formol, a few drops of spirits of menthol may be added to the solution.—(*Gaz. des Hopitaux*, Sept. 21st, 1909.)

SULPHURIC ACID IN THE TREATMENT OF PULPECTOMY.*
(*L'Art Dentaire*, Bordeaux, France, Nov. 1909.)

The good results which I have obtained in caries of the fourth degree with sulphuric acid treatment have induced me to present you with this article.

This therapeutic treatment is very simple for single-rooted teeth and for upper bicuspids; but, it offers some difficulties for molars, especially those which are affected with distal cavities.

In cases of single-rooted teeth and bicuspids.—The precautions indicated by Dr. Siffre are to be carefully followed, i. e., the mucous membrane should be protected from the drug. For this process, a copper sound is used, upon the end of which cotton has been twisted and dipped into the acid. It is then brought in contact with the pulp, and with gentle pressure it is forced into the root canal; but this must take place very slowly and very gradually. Very little pain is usually caused by this treatment, and it generally takes place when the acid comes in contact with the pulp. If there is intense pain experienced when the sound penetrates the root-canal it is usually caused by a too small quantity of sulphuric acid, and in such cases, the sound should be, with the cotton, dipped in the acid and the operation continued. When the sound has reached the apex of the root, it should be rotated and withdrawn. This in most of cases will remove all contents of root-canal without any manifestation of pain from the patient.

In case of molars.—I proceed in the following manner, after the mucous membrane surrounding the tooth has been protected. The cavity should be cleansed and the pulp denuded or exposed, then a pledget of cotton saturated with sulphuric acid is placed on the pulp and allowed to remain there for a few seconds and sometimes one minute, according to the case. This will enable the operator to remove the pulp from the pulp-chamber, after which each root may be treated as above mentioned as if it were a single-rooted tooth.

FALSE TEETH CAUSE DEATH.

(*The British Journal of Dental Science*, London, Nov. 1st, 1909.)

An extraordinary death by misadventure was brought to light, when the Borough Coroner (Mr. Cecil Holden) held an inquiry

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into the death of Annie Ennis, of Brooklet Lodge, Ledsham.

Patrick James Ennis, a former bailiff and husband of the deceased, stated that his wife, who was a healthy woman, retired to rest on Sunday, the 26th. ult., at about 11:30 p. m. At about 2:30 in the morning she awoke, aroused him, and he found her in a state of great agitation, gesticulating and evidently unable to speak. She pointed to her mouth, and on examination witness found that deceased's false teeth were sticking in her throat. He endeavored to extract them, but was unable to do so. He immediately went down stairs and telephoned to Dr. Nott, of Little Sutton. Dr. Nott arrived about 3:15, and after great difficulty succeeded in getting the teeth out.

Although she could not take any solid food afterwards, it was thought that she was progressing favorably until Friday 1st, inst. Then, she took a sudden turn for the worse, and by Dr. Nott's advice, was removed to the Bourough Hospital. Witness said that she never had removed the teeth, which she had worn for nine years, except for cleaning purposes, and when asked if she could account for the teeth getting into her throat she said she could not, unless while sleeping her head had been thrown too far back.

Dr. Nott deposed that about 2:45 on the morning in question he received a telephone communication, and went prepared with the necessary instruments to extract the teeth. He made several attempts before the teeth were finally got out. Deceased vomited, and streaks of blood accompanied it. She was in great pain for two days, but on Wednesday was better and able to swallow some milk and eggs. On Friday, however, some obstruction appeared in the throat, and it subsequently took the form of an abcess. He saw that the change was of a serious nature, and he advised Mrs. Ennis's removal to the hospital.

Dr. Muir, senior house surgeon at Borough Hospital, said that the deceased died from asphyxia, consequent on the abcess bursting and the matter escaping into the lungs. The removal of the teeth from the throat reflected great credit on Dr. Nott, it being a considerable difficult piece of work.

The jury returned a verdict in accordance with the medical evidence.

**ANESTHESIA OF THE DENTINE, PULP, AND MAXILLARY BY
THE USE OF DISTAL INJECTIONS.**

(*L'Odontologie*, Paris, Nov. 30th, 1909.)

This method of distal injections, says M. Polet, is made at the neck of the tooth, but it is not intarodiploic, nor is it intragingival, and it should not be made at the apex; it is altogether different from other methods.

On another hand, this method is based on the following anatomical basis: The dental filament (nerve) enters the root distally.

There is between the root and the alveolus a ligament which is readily penetrated and saturated with a fluid, and this ligament will spread insensibility only towards the apex of the root. Maxillaries offer canals, pores, fissures which are easily penetrated by the needle and which will absorb the fluid.

Technic: A very strong syringe should be used for this purpose and the needles should be very fine. The injection is made distally with the exception of the third molars and upper cuspids. In cases where the anterior tooth has been extracted better results are obtained if the injection is made mesially. The needle should penetrate from one-half to one centimeter, (from 3 to 6-16 of an inch).

Mr. Polet says that the anesthesia follows the injection instantaneously in 60 per cent of the cases, although sometimes it is necessary to make a second injection on the opposite side and to wait a few moments.

The period of the anesthesia varies from five minutes to one hour. Generally the anesthesia will affect several teeth and sometimes the whole maxillary.

The author has used alypin, stovaine, cocaine, novocaine, all with the same satisfactory results.

Advantage of this method: Asepsis, rapidity, simplicity, and will be found to act also in the region of the lower molars.

The only objection is that it may cause a slight pericementitis which will soon pass away.

In the past few months, from 75 cases, the author has had 74 which were successful.—(*Revue Trimestrielle Belge de Stomatologie*, Sept., 1909.)

PYORRHœA ALVEOLARIS AS A CAUSE OF COLITIS.

(*The Dental Surgeon*, London, Nov. 27th, 1909.)

In the course of an article on "Seven Cases of Appendicostomy for Various Forms of Colitis," published in the British Medical Journal of Oct. 30th., Mr. Frederick C. Wallis, F. R. C. S., Surgeon of the Charring Cross Hospital, relates seven cases of appendicostomy which he regards as typical class of case in which the operation is of most benefit.

The following (Case 2) is of special interest from a dental point of view:

T., aged 45, was brought to me by Dr. Gregory, of Redcliffe Gardens, in July, 1908. The history was that she had been passing blood and mucous since Christmas. There was slight abdominal pain. She was losing flesh and had become anemic. On examining the mouth there was a marked condition of pyorrhœa alveolaris.

A sigmoidoscopic examination was made under an anesthetic on July 2nd, 1908, and it was found that the upper rectum and the sigmoid as far as the sigmoidoscope would go were ulcerated in patches and generally congested.

The Streptococcus longus was cultivated from a swabbing taken from the discharge in the sigmoidoscope. This strongly suggested that the pyorrhœa alveolaris was the cause of the colitis. The condition of the gums was immediately treated, and the patient was dieted and put on lacto-bacilline.

Operation.—Appendicostomy was preformed on July 10th. The colon was washed through with several pints of sodium bicarbonate one dram to the pint, on the operation table, and for the succeeding seven days four pints of this solution were washed through twice a day. For the last five days there was no blood nor mucous in the washout.

The patient went into the country shortly afterwards, and the appendicostomy opening was allowed to close up. She has remained perfectly well ever since.

JOURNALISTIC GEMS.

NITROUS-OXID-OXYGEN ANESTHESIA BY THE METHOD OF REBREATHING WITH SPECIAL REFERENCE TO PREVENTION OF SURGICAL SHOCK.

WILLIS D. GATCH, M.D., BALTIMORE.

The following article gives the results of a trial of nitrous-oxid-oxygen anesthesia in the service of Professor Halstead at the Johns Hopkins Hospital. My object at the outset was to develop a method of administering these gases so simple, cheap and effective as to make possible their more general use. As nitrous-oxid and oxygen are expensive and are to be obtained only in heavy cylinders, it seemed to me that the solution of the question of their administration, so far as cost and convenience are concerned, must lie in using them over instead of wasting them after one inhalation. I have, therefore, studied the effects of re-breathing these gases with a view to determining to what extent this may be permitted without injury to the patient. My results have led me to believe that within certain limits the method is not only harmless but beneficial.

For the sake of clearness I shall consider the facts to be presented under three headings, namely: (1) the apparatus employed; (2) the method of administration; (3) the clinical results.

THE APPARATUS.

This consists of a holder for the cylinders of gas, a rubber bag, a face piece, and the connecting tubing. The holder, consists of a basket of iron, triangular on cross-section, into which two cylinders of nitrous oxid and one of oxygen may be placed. Small set screws hold them in position. One of the lateral bars of the basket is made into a handle for carrying it about. To the upper part of the holder is bolted an L-shaped tube, each arm of which is about 2 inches long and 1 inch in diameter. Three small tubes through which gas is admitted from the cylinders enter the upper part of the L tube. Each of these is connected with its cylinder by means of a short piece of rubber tubing and an ordinary collar of the kind sold with the cylinder.

A rubber bag of 6 to 8 liters' capacity is attached to the vertical arm of the L tube, and a rubber pipe one inch in diameter and 2½ feet long to the horizontal arm. This pipe is wrapped with wire to prevent kinking. It leads to the face piece. If so desired, the rubber bag may be attached directly to the face-piece. It is more convenient, however, to have it on the holder. There is no obstruction to breathing through a tube an inch in diameter. As the face piece is the most important part of the apparatus, it merits a somewhat careful description.

It consists of a valve box and a mask. The valve box is made on the principle of a trombone and has an outer and inner tube. By sliding the latter to a given one of three positions, the patient may be made to breathe air in and out through valves, or gas (with oxygen if desired) in and out through valves, or gas to and fro into the bag.

The inner tube may be pushed into three different positions: When in the first position, air enters the valve box through the air vent, and is breathed inward through the valve V, and outward through the valve and the holes in the diaphragm. Gas is usually not given when the air vent is open. In the second position, the air-vent is closed and gas is breathed inward and outward just as air is breathed the first position, the only difference being that the orifice is over the opposite end of the large opening, in the outer tube. In the third position, the air vent is still closed and the valves are thrown out of action. Gas is then breathed to and fro into the bag.

The mask is attached directly to the valve-box. It is essential that this fit the patient's face so as to be absolutely air-tight. The ordinary face-piece is fitted with an inflatable rubber rim. As such a mask cannot possibly fit every face, a set of graduated sizes must be employed. Even then a mask cannot always be found which will fit the face of an edentulous patient or of one with a beard or a prominent nose. As these face-pieces do not fit under the chin, they are usually brushed away by any sudden movement of an unruly patient. Furthermore, it is very tiresome to hold such a mask accurately in place during a long anesthesia.

I have hit on a simple device which does away with these difficulties. This consists of a mask provided with a rubber cuff, and big enough to fit the largest face. The cuff is pulled up over the margin of the mask. To adjust the cuff to the face the free portion

of the cuff is turned back over the margin of the mask, and the latter is put on the face so as to take in the nose and chin. The cuff is then turned down, when it firmly grasps the chin, cheeks and nose. It may be made to fit any face. I have used it on a child 2 years old. The cuff allows dental props, gags, etc., to be put into the mouth without admitting air.

One other part of the mask—the ether attachment—remains to be described. This consists of a cylinder of wire gauze an inch and a half in diameter, fitted at one end to a short metallic cartridge. The latter fits accurately the inside of a tube passing through the wall of the mask. Tube and cartridge are perforated by small openings which may be super-imposing by rotating the cartridge. The wire cylinder is packed with gauze, on which ether is dropped through the orifice H. The latter is provided with a funnel, inside of which is a perforated plate which prevents any splashing of ether when the patient expires. Because of the heat inside the mask, the ether is rapidly evaporated from the gauze, and very small amounts are required. It need hardly be said that chloroform should never be given with such an apparatus.

The main features of this apparatus may be summarized as follows:

1. It is simple and is made to withstand hard usage. It cannot easily get out of order, and, if it does, it may be quickly taken apart and repaired.
2. It is light and easily portable. Exclusive of the cylinder, it weighs only six pounds; with two cylinders, 26 pounds. Packed in a bag of canvas or leather it may be taken anywhere.
3. It may be quickly sterilized by boiling. To spare the rubber we usually sterilize the bag and tubing with a solution of bichloride of mercury which is rinsed away with water.
4. It is economical in the use of gases, as the cuff prevents all leakage.
5. There is so little mechanism to be considered and the administration is so simple that the anesthetizer has plenty of time for observation of his patient.
6. It is inexpensive. The total cost of the apparatus is about \$25.

With the air vent open the cuff of the mask is fitted to the

patient's face, care being taken to prevent the admission of air at the sides of the nose. In some cases it may be necessary to lay a piece of gauze across the bridge of the nose and draw the cuff over it, or to hold the cuff there with the finger. The inner tube of the valve-box is pushed to its mid-position and nitrous oxid admitted to the bag. The patient now inhales this gas and expires into the outer air, thus washing out, as it were, all the air from his lungs. This process is continued until he becomes very slightly cyanotic. Then the inner tube is pushed to its final position and the patient breathes to and fro into the bag. At this moment a small puff of oxygen is admitted to the bag, just enough to restore the natural color of the face. The patient now rebreathes a mixture of nitrous oxid and oxygen until the inner tube of the valve box is moved back to its mid-position. He then exhales each breath into the air until the bag is empty. The anesthetizer then fills it with a fresh mixture of gases, which the patient again rebreathes. No attempt is made to measure the exact percentage of oxygen given. This we regard as unnecessary. It is perfectly easy to add directly from the oxygen cylinder exactly the right amount of this gas to each bag of nitrous oxid. The patient's color is an extremely delicate indicator of the amount of oxygen he is getting. Our rule is to give just enough oxygen to keep the patient's color free of the least tint of cyanosis. The most elaborate device for regulating the percentages of the two gases can do nothing more than this.

The question now arises whether rebreathing in the manner I have just described is injurious. Many writers have attached great importance to certain volatile organic poisons in the expired air. This has caused several inventors of apparatus for giving nitrous oxid and oxygen to do away entirely with rebreathing. Hewitt's apparatus, although its inventor states that rebreathing is probably not harmful, does not permit rebreathing. Dr. H. Warren Buckler, anesthetist for Dr. H. A. Kelly, has used the method of rebreathing for several years and has noted no ill effects therefrom. I have sought from the first to determine to what extent rebreathing is permissible. Prof. W. H. Howell has reviewed the experimental data bearing on the question of the harmful products of expired air. His conclusion, which is based on the experimental work of Haldane and Smith, is that it is highly improbable that any volatile organic poisons exist in the

breath, and that the only harmful products of respiration are water vapor and carbon dioxid. He says:

Individuals, kept in a confined space for a number of hours, give no symptoms of evil effects except when the accumulation of carbon dioxid has reached a concentration of over 4 per cent. At this concentration rapid breathing is apparent, and if the carbon dioxid rises to 10 per cent great distress is felt, and the face becomes congested and blue.

If we accept these conclusions as correct, we may make a rough calculation based on them to determine the number of times a patient may rebreathe a given quantity of gas without injury. The average volume of an expiration for an adult is 500 cc. This contains 4 per cent or 20 cc. of carbon dioxid. Therefore an adult patient can breathe the contents of a bag containing 8 liters of gas sixteen times before the carbon dioxid content of the same will reach 4 per cent.

At first I adhered pretty closely to this rule, as I feared that too high a percentage of carbon dioxid would be injurious. I also tested frequently, usually in the course of the same anesthesia, the effect of rebreathing and of a continuous administration without rebreathing. The latter procedure has always been the less satisfactory one. With it the patient's respiration soon becomes shallow and his pulse more rapid, even when his color is good and the anesthesia deep and satisfactory. With breathing on the other hand, the respiration become deep and full and the pulse rate usually falls. This result, until I had familiarized myself with the recent work of Dr. Yandell Henderson on "Shock", I attributed entirely to the stimulant action of carbon dioxid on the respiratory center. Henderson's work, however, indicates that this compound has also a direct action on the venous system.

"Failure of the circulation in shock," he states, "is due primarily to abolition of venous, not arterial, tonus." The hypothesis is presented that acapnia (diminished carbon dioxid in the blood and tissues resulting from hyperpnea and from exhalation of carbon dioxid from exposed eviscera) is the cause of surgical shock." Carbon dioxid he believes, is the normal stimulant of the venous wall if the amount of this gas in the blood decreases below a certain level, the veins dilate and the blood accumulates in them until not enough blood is returned to the heart properly to support the circulation. Shock would thus only indirectly be the result of trauma. When it occurs in the course of

anesthesia or after a painful injury it would be due to over-ventilation of the lungs, which diminishes the carbon dioxid content of the blood. Henderson was able merely by regulating "the rate of pulmonary ventilation" to adjust the heart to any desired rate of beat. He believes that carbon dioxid exerts a stimulative action, not only on the respiratory center, but on the vasomotor and cardoinhibitory centers as well. The respiratory center is, however, much more sensitive to the action of carbon dioxid than the others, and not until the departure from normal of the carbon dioxid content of the blood becomes fairly well marked is the pulse slowed or the blood-pressure elevated. Thus a reduction of the carbon dioxid content of the blood causes, as a rule, shallow, feeble respiration, a rapid pulse, and low blood-pressure, while excess of carbon dioxid causes deepened respiration, slowing of the pulse and increase of blood-pressure.

It is evident, if this theory be correct, that rebreathing to a certain extent, during nitrous-oxid-oxygen anesthesia, is not harmful, but beneficial. The respiratory rate with this form of narcosis is very rapid—frequently from forty to sixty a minute. Such overventilation of the lungs must rapidly take carbon dioxid from the blood. I shall briefly present certain observations which lend support to Henderson's theory:

1. Rebreathing, provided enough oxygen be given to prevent cyanosis, can be permitted for a surprisingly long time without any appreciably injurious result. I have tested this by having healthy adults breathe to and fro the contents of a six-liter bag of oxygen. This may be done from four to eight minutes without the slightest change in pulse or blood-pressure. The gas in the bag becomes hot, moist and disagreeable to breathe, and there is some sweating; otherwise there is no discomfort from this experiment.

2. The pulse, respiration and blood-pressure, once anesthesia is well established, are very little affected by the trauma of the operation. I have twice given this anesthetic during the evulsion of large peripheral nerve and neither time was there the least change in the patient's condition. Likewise there is no change during the most vigorous manipulations of ankylosed joints. Little effect is produced by trauma and exposure of the intestines. This would seem to be favorable to Henderson's contention that trauma produces shock chiefly by increasing the ventilation of the blood in the lungs. Rebreathing prevents such ventilation.

3. A pulse, rapid before operation, is nearly always slowed when rebreathing is permitted for some length of time. Very sick patients, with rapid pulse and quick, shallow respiration, actually seem benefited by this form of anesthesia. A young man with gangrene of the bowel had a pulse-rate before operation of 160. During the operation, which lasted forty-five minutes, his pulse varied from 90 to 120 and was of a distinctly better quality than before. If the anesthesia is unsatisfactory, or if rebreathing is not permitted to any great extent, I have always noted an acceleration of the pulse. This observation is in accord with Hewitt's statement, that "the pulse is invariably accelerated." It is to be noted that Hewitt's apparatus does not permit rebreathing.

On two occasions I have observed a sudden and marked slowing of the pulse, in one case from 90 to 60 and in another from 80 to 50. In both cases the tension was also markedly increased. Both patients were of a good color and both had been rebreathing for rather long intervals. I attribute a fall of this kind to a sudden stimulation of the cardio-inhibitory center by an excess of carbon dioxid in the blood. On washing out the lungs with a fresh supply of gas, the pulse-rate immediately rose. The blood seems to free itself of an excess of carbon dioxid with great rapidity.

4. There is usually a well-marked and sustained rise of blood pressure during this form of narcosis. In the case of the patient whose chart is shown in Figure 4 the rise was from 100 to 120. I have a number of charts which illustrate this fact. According to Henderson, carbon dioxid has a direct stimulant action on the vaso motor center.

The carbon dioxid is not the only product of expiration the effect of which must be studied with regard to rebreathing. The heat of the exhaled gases has also an important action. Normally the body loses a large amount of heat in the expired air. This loss is prevented by rebreathing. Therefore there is a rise of body temperature. This I have almost always found to be over half a degree in anesthesias of thirty minutes or more. During an administration of three hours the temperature rose 1.3 degrees.

Rebreathing is thus a most effective method of heating the gases, which are cold on being freed from their cylinders.

The body also loses considerable moisture by way of the lungs.

Water vapor accumulates in the rebreathed gases, but this, so far as I have observed, has no ill effect on the patient.

It is best and cheapest not to admit any air during the administration. Satisfactory anesthesia is impossible with enough air to prevent cyanosis, because of the large amount of nitrogen in the air.

CLINICAL RESULTS AND OBSERVATIONS.

We have given nitrous oxid with oxygen by the method of re-breathing without mishap to about 700 patients. Records of the pulse, respiration and blood-pressure have been kept during the more important administrations, and postoperative examinations of the urine made. From the data so obtained I shall attempt to answer three questions: 1. Is this form of anesthesia safe and free from bad after-effects? 2. Is it deep and smooth enough to be satisfactory to the surgeon? 3. Is the administration sufficiently cheap and convenient to be generally used?

It would be foolish to assert that there is no danger. The danger lies, however, not at all in the anesthetic, but entirely in the way it is given. There are three danger signals: cyanosis, slowing of the pulse, and vomiting. With a good color, a pulse of 70 or above, and regular breathing, there is no danger. Vomiting is not a cause of trouble when the patient has been properly prepared for operation. It is to be feared if he has just eaten, or if he has intestinal obstruction. At the first sign of retching the mask is to be removed. As the patient regains consciousness very quickly, he is not liable to aspirate vomitus.

For an adult man, rebreathing can be permitted for two-minute intervals, and for three-minute intervals for women and children.

I have met practically no bad after-effects. A few patients have vomited during or just after the administration. A few have had slight headache. A boy with extensive burns was anesthetized daily for twenty to fifty minutes on three successive days without the slightest appreciable evil result. He could take food immediately after the administration. Although a very large percentage of our patients have been seriously ill at the time of the operation, many of them with advanced pulmonary or renal disease, we have had no fatalities or postoperative complications attributable to the anesthetic.

In answer to the second question I may state in a general way that for the cases for which this anesthetic is especially indicated it

is as satisfactory to the surgeon as ether. Almost every abdominal and peripheral operation except craniotomy and operations on the female pelvic organs, has been performed under it. Fifty of the cases have been laparotomies. The list has included drainage of the mastoid cells, drainage of the antrum of Highmore, excision of tuberculous glands of the neck, drainage of empyema, removal of the breast for benign and malignant disease, operations on the gall-passages, intestinal anastomosis, appendectomy, cystotomy, nephrectomy, repair of typhoid perforation of bowel, cure of hernia, castration, amputations of leg and arm, exploration of great joints and evulsion of nerves. One administration lasted three hours; three others have been for more than two hours. Most failures are to be traced to a poorly fitting mask. A very small amount of air will spoil the anesthesia. It would be claiming too much, however, to assert that this form of narcosis is always as satisfactory as that of ether. Certain patients cannot be kept properly relaxed without a disagreeable degree of cyanosis. With such cases it is wisest not to go on very long with nitrous oxid, but to give ether at once, either very small amounts in the mask or by the drop method. Ether should never be given for a long time by means of the mask. By the aid of a few drops, however, there is rarely a patient who cannot be carried through the more difficult periods of the operation.

To the third question I can at once answer in the affirmative. For the following reasons this form of anesthesia is very convenient.

1. It is pleasant to the patient; many patients will consent to operation under "laughing gas" who would refuse if ether were to be used.

2. Consciousness is quickly lost and quickly regained. The patient does not have to be watched by the anesthetizer for more than a brief period after the operation, and may be allowed to come out of the anesthetic at any time should his cooperation be necessary to the surgeon. Very few patients have any excitement on recovery.

3. The anesthetic is so nearly harmless that one does not hesitate to give it to the same patient over and over again, at frequent intervals, or to use it for painful dressings, manipulations, etc.

4. The apparatus is cheap, easily portable, simple and not difficult to use.

5. The cost is not great. The patient consumed one cylinder

of nitrous oxid (cost \$1.75) and ten to fifteen gallons oxygen (cost about 40 cents) in two hours and fifteen minutes. Roughly, the cost is about 1½ cents per minute of anesthesia. The cost is greatly lessened by the method of rebreathing.

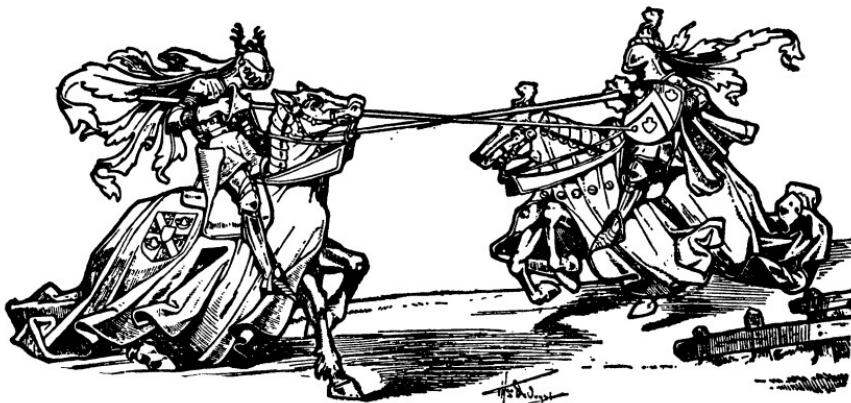
Besides being safe and convenient, this form of anesthesia has, I believe, a unique characteristic which makes it especially valuable for very sick patients. I refer to its remedial action for shock. This effect, which has already been discussed, may make of the anesthetic an aid instead of an evil. Furthermore, I have seen no cases of post-operative collapse following its use. Patients who cannot be easily anesthetized by nitrous oxid alone may first be etherized to a moderate depth and the anesthesia then continued with nitrous oxid. The therapeutic effect of rebreathing may thus be secured for all cases.

SUMMARY.

1. Nitrous oxid with oxygen may be successfully given by a very simple and easily portable apparatus.
2. It is unnecessary to measure the percentage of oxygen given.
3. There are no harmful organic substances in expired air.
4. Rebreathing to a moderate degree is harmless.
5. In many cases rebreathing is beneficial, as it causes increased depth of respiration, slowing of the pulse, a rise of the blood-pressure and a rise of temperature. It seems probable that all but the last of these results may be attributable to the action of carbon dioxid.
6. Evidence is presented which indicates that surgical shock in the absence of hemorrhage may be caused in part by excessive pulmonary ventilation.
7. The method has met the requirements of a thorough clinical test.
8. The ether-nitrous-oxid sequence is suggested for certain cases.

I desire to thank Professor Halsted and Pro. W. H. Howell for criticism of this article and Professor Halsted for the use of the clinical material on which it is based.—*Journal, A.M.A.* March 5th, 1910.

PROFESSIONAL ARENA.



This new and fascinating departure has been instituted because of the natural human desire of being in touch with the active, the exciting and even the bitterness of physical contact. This innate propensity of human beings, of wishing for the scenes of antagonism, is well understood by the youth, emphatically illustrated in the adult, and even creditably manifested by the aged. Evidence of which we have from the time we play marbles, engage in baseball, assume the platform in debates, attend various forms of athletic races, eagerly purchase tickets to witness some human or even animal contest, and at no time during life does the normally constructed human being fail to enjoy some phases of the arena, be they mental or physical. Of course, in this arena, these contests will be of the mental kind, and the profitable side of this department can be easily imagined by those of a quick pulse and a ready hand.

Now in the pages devoted to this department many of the so-called solved problems are to be opened for re-examination. The topics of greatest interest will be brought to your attention, among which your editor hopes to engage the best talent to discuss such themes as "Should the dentist charge by the time or service rendered?" "Should there be one standard of dental prices, for rich or poor?" "Do you believe in the lactic acid theory of dental decay?" "Is the erosion of teeth understood?" "Is pyorrhea alveolaris a local or sys-

temic disturbance?" "What of the various stains which are deposited on the teeth?" Besides these the discussion will include the etiology of many of the dental troubles. "Why do not more dentists devote themselves to research?" "What attitude should the National Government take in dental progress?" "What of the advantages of dental co-operation, both in purchase of goods and construction of substances?"

These and other essential topics will be brought to the Arena, and while there will be some clashing of the sword and beating on the shields—no physical injury we hope, may come from the fray.

We invite you to send in a short discussion of the first problem and will give such space as the contest warrants. Besides we will publish what several leading exponents have to say of the subject of charging by "time or operation performed." Let us hear from all interested. In our August issue we will consider: "Should the dentist charge by time or service rendered?" Send in a brief opinion, everybody is interested.



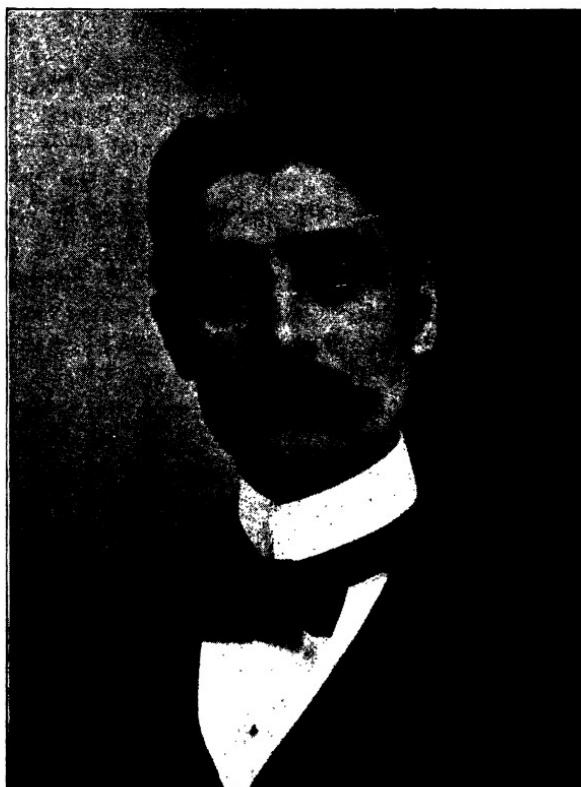
We are pleased to insert a half-tone reproduction of a copy of the famous Rembrandt oil painting, as made by the distinguished New York dentist Dr. Norman W. Kingsley. He was the inventor of the now popular pyrographic pictures, and his burnt-wood illustrations are high art. We will give the readers more of this artistic work later, and will incorporate also interesting items of other dentists who are finding recreation and education in kindred fields of effort.

WHO'S WHO AND WHY.

Under this title the journal will devote some space to acquainting its readers with the presidents of state dental, and important local societies; and treat of such other distinguished dental practitioners as the personal news item merits.

By this means the readers are brought into a closer relationship with the leading spirits of his profession, and a better understanding can grow out of such an acquaintance.

It is the intention to give interesting news items and brief biographical sketches, calculated to afford a more intimate companionship among the members of the dental profession.



DR. DAVID M. CATTELL.

Few men in the dental profession have so continuously devoted their efforts to dental instruction, as Dr. D. M. Cattell, and it is gratifying to learn of his promotion to the position of registrar of the dental department of the University of Memphis, Tenn.

He was born in Ohio, June 26, 1852. Losing his parents at an early age, his youth was spent with relatives from whom he received an excellent training and moral discipline always found among the Quakers. His education prior to professional studies was acquired almost wholly at Quaker schools and colleges. He began the study of dentistry under the guidance of Dr. H. H. Harrison of Cardiz, Ohio, graduating at the University of Michigan, receiving the degree of Doctor of Dental Surgery in the year 1879.

He began the practice of dentistry May 1, 1879, in Chicago. For five years he was associated with Dr. J. N. Crouse as assistant in his office practice.

In the fall of 1888 the doctor was called to take charge of Operative Technics, a department in the curriculum of dental school work just instituted at the Chicago College of Dental Surgery. He remained with this school till the reorganization of the Northwestern University Dental School in 1891, in which school he accepted the chair of Operative Technics, remaining several years. At the organization of the Illinois School of Dentistry in 1898, he was called to the chairs of Operative Dentistry and Technics, which chairs he held until 1903 when he left Chicago to become the head of the operative department at Vanderbilt University, Nashville, Tenn. He is a member of the Chicago Odentographic, Illinois State, National, and Pedagogic Dental Societies. He was practically the founder of the School of Dental Technics, which is at present the Institute of Dental Pedagogics. Dr. Cattell is a national character and has contributed papers to all the leading societies and journals of our country.

PRACTICAL SUGGESTIONS.

TO KEEP AMALGAM BRIGHT.

A simple solution of soda is better for cleansing fresh amalgam than alcohol. The amalgam does not darken afterward and retains a beautiful pure color.—(*Deutsch Zahnärztliche Zeitung.*)

DIE METAL.

Bismuth 48 parts, cadmium 13 parts, lead 19 parts, tin 20 parts. This easily fusible metal can be poured into wet plaster—(*Zeitschrift Fur Zahnärztliche Orthopädie.*)

METHOD OF HOLDING A CROWN FOR POLISHING.

Take a small stick of modeling composition, heat one end, dip it in shellac and insert it into the open end of the crown, which has been previously filled with plaster mixed with salt. The salt accelerates the setting of the plaster, which will be completed by the heat produced by the polishing. Hold the whole under a cold water spigot and polish. To detach the crown, simply pass it slightly over a flame. The stick and plaster will come out, leaving the interior of the crown absolutely clean.—(*Bulletin du Syndicat des Chirurgiens Dentistes de France.*)

Ironing linen has a greater effect than is generally supposed. The laundress first sprinkles the linen or other fabrics with water, then rolls them up and allows them to rest until the moisture has penetrated through and through. When the iron is applied this moisture is converted into steam, and as the process is continued until the moisture has evaporated, this superheated steam penetrates every portion of the fabric. The temperature of the iron may greatly exceed 266 degrees F. It has been suggested that the process of ironing may suffice to sterilize surgical dressings when sterilizing ovens and sterilizers are not available. Nearly all microbes are killed at a temperature of 158 degrees F. if this temperature is continued long enough. A temperature of 266 degrees F. is required to certainly kill spores of bacteria and produce absolute and complete sterilization. It has been

proven by experiments that it is possible to disinfect clothing very satisfactorily by ironing. Clothing which had been worn by children affected by various contagious diseases, and which contained bacteria of pus, diphtheria, etc., was sprinkled and ironed. It was then rubbed on plates of gelatin and not a single colony developed.—*Scientific American.*

If gold other than pure be used in casting, it will be found to be brittle. This may be overcome by plunging the gold into a saturated solution of salt water, drying over a flame and melting and casting as usual.

The salt water acts as a flux and will overcome the brittleness, which is the objection to scrap gold in bridge work.—C. S. Starnweather, *Dental Summary.*

When we find it necessary to devitalize and remove a pulp from a distal cavity in a molar or bicuspid, the operation may be simplified by adopting the following method:

Remove all the decay possible near the pulp and provide for retention for a permanent filling, such as amalgam or Ascher's artificial enamel, preferably the latter. Apply the devitalizing paste and place over it a metal disk of sufficient strength to resist the pressure of inserting the permanent filling. Insert the filling and finish as you wish it to remain permanently. When the devitalizing agent has remained in the tooth the desired length of time, make a new opening into the pulp chamber through the occlusal surface of the tooth far enough mesially to enable you to gain access to all the canals, and remove the devitalizing agent and all the decay that remained in the cavity. Then proceed with the treatments and canal filling in the usual way.

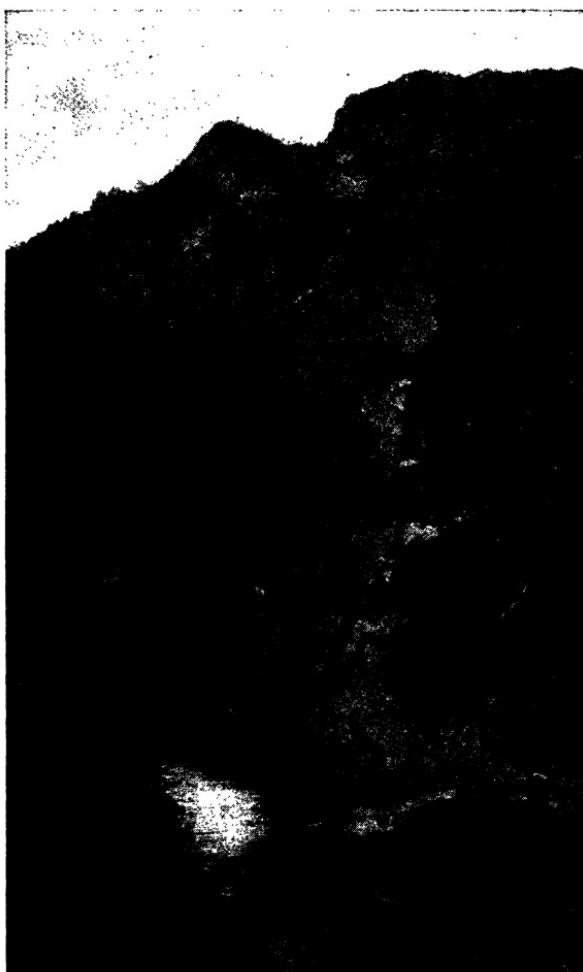
You thus avoid the difficulty of trying to apply the required treatment through the almost inaccessible distal cavity. The occlusal cavity may be filled with a permanent filling after the root canals have been successfully filled. In this way you will find it unnecessary to cut away the crown to such an extent as to weaken it, as would result if a mesial opening were made to gain access to the canals.—H. A. Cross, *Dental Review.*

Please Your Patients.—While this suggestion may not be new to many of you, to those who have not tried it I would suggest that you put a dash of Lavoris in the water when mixing plaster for impressions. The pleasing aromatic flavor and odor will overcome that gagging sensation.—W. N. Murray, D. D. S.

Instead of using linen tape as an aid in burnishing a matrix for a porcelain inlay, I find that gold beaters' skin answers the purpose much better. Take a small strip of the skin about an inch and a half or two inches in length and as wide as desired, and after you have the matrix adapted to the deep portion of the cavity, place the strip over it and use in the same manner as the tape. This material is thin and very tough and will not tear under the burnishers. It being thin and partially transparent, enables one to better burnish the margins and to observe during the operation that there is no buckling or tearing of the margins under it.—A. F. Kenney, Chicago, Dental Review.

The wedge or wedges in a hammer handle now and again develop a disagreeable habit of coming out unexpectedly and allowing the hammer head to fly off. This may be overcome in the following manner: Take a common wrought iron or steel washer of the proper thickness and size, and file it to a wedge shape. Let the edge driven into the handle retain the round form of the washer, and so shape the sides that with the hole central the projecting edge will be about one-fourth less in width than the edge entering the handle. Before fitting the handle to the hammer split the end with a hack saw a little deeper than the length of the wedge. Then fit the handle to the hammer tight enough to close the split nearly together; then remove the handle and soak the end in water for a few minutes, and then enter the thin edge of the wedge a little and drive the handle into the hammer; then drive the wedge home. The moisture will rust the wedge and cause it to hold fast to the wood. This, together with the hole through the washer, which will be completely filled with wood, and the back taper of the sides of the wedge, around which the wood will pack, will keep the wedge in place as long as the hammer lasts.—Frank Rose, Modern Machinery.

ANNOUNCEMENTS.



"BOULDER CANON."

Published by courtesy Colorado & Southern Railway.

The National Dental Association meets at Denver, July 19, 20,
21, 22, 1910.

The Brown Palace will be hotel headquarters.

As Denver has without difficulty cared for such conventions as



"GEORGETOWN LOOP AND THE SUMMIT OF MOUNT McCLELLAN."

the Knights Templar, Elks, G. A. R., N. E. A., and the National Democratic Convention, the accommodations are more than ample.

The first-class hotels of Denver are so numerous that an attempt to enumerate them in the space allotted to this article is out of the question. Rooms without bath can be secured for from \$1.00 to \$2.50 per day, and for two persons, from \$1.50 to \$3.00; with bath \$1.50 to \$3.00, and for two persons in room, \$2.00 to \$5.00 per day according to location and size of room. In and near the center of the city there are many high-class rooming houses where rooms can be secured at lower rates, while in the many excellent restaurants throughout the business section, meals can be procured at reasonable prices. Board and room can also be had in boarding houses or private families.

A booklet on Denver containing a list of all the hotels with their rates together with much other valuable information will be mailed, upon request to the Publicity Committee. To secure the best accommodations, reservations should be made in advance.

From the 15th of June, the committee will have a competent

and experienced man, familiar with the city and state, devote his entire time to arranging for the accommodation of all guests, in accordance with their wishes. This plan has been adopted to insure prompt and undivided attention to all of the many matters which are of vital importance to the comfort of the visitors.

Special plans will be made to entertain the wives and families of the visiting dentists during the sessions of the convention.

Summer excursion rates prevail from all parts of the country, and details concerning them can be secured from local ticket agents. The summer excursion rates out of Denver to points of interest in Colorado are very low, being on sale continuously throughout the summer; while much lower rates are in effect for three-day excursions; Saturday, Sunday and Monday; and lower still for Sunday excursions. Certain other days in the week tickets are on sale to all points in the state at rates much lower than the regular excursion rates; and to the principal resorts in the state, especially low fares are in force for parties of three or more traveling on one ticket. All of these tickets have their special features regarding time limit and stop-over privileges. Accommodations can be secured at the various resorts in the state to suit the tastes of all; at from \$7.00 per week



"DENVER'S NEW AUDITORIUM."

and up with board; and one many choose to rough it or to live at the finest appointed hotels.

Immediately upon arrival, visitors are requested to register and give forwarding instructions for mail. In case any change of address is made while in the city they are requested to notify the committee at once.

Mail addressed "care National Dental Association, Denver, Colo." will insure prompt delivery.

Local offices will be established at the Union Station, July 17th, 18th and 19th, to direct and assist arriving visitors, and throughout the entire meeting offices will be maintained at the Brown Palace hotel and at the Auditorium, at which latter place will be the principal office of the local committee, where can be secured all information relating to the meeting, the city and state, the hotels and railroads. There will be provided for distribution literature from all the railroads, and complete information concerning vacations in the mountains. A great deal is being said about opportunities for vacations in the mountains simply because we know that people who avail themselves of such, will not be disappointed. This statement is based not upon our own feelings in the matter, but upon the statements of those who spend their summers in Colorado.

Do not fail to bring with you a light overcoat or wrap, and if you are going into the mountains bring warm underwear, strong high shoes and old clothes.

Special train and car service is being arranged from Chicago and St. Louis. The round trip rate from Chicago is \$30.00, from St. Louis, \$25.00 and from Kansas City and Omaha, \$17.50.

Notice: The rates to Denver from the East apply to Colorado Springs and Pueblo, and that tickets can be purchased through to either of these points, which will enable the purchaser to visit the numerous points of interest south of Denver (Colorado Springs, Manitou, Garden of the Gods, Pike's Peak region, Pueblo, etc.) without any additional expense for transportation. Unlimited stop-overs are allowed, within final limit, in both directions at Denver and Colorado Springs. Tickets may be validated for return passage at either of the points mentioned, leaving it optional with the purchaser whether the ticket is used south of Denver.

Many of the rates are not definitely determined yet, but in general they will be based upon a fare and one-third for the round trip.

Rates from Ogden, Salt Lake and Utah common points will be \$22.50 and from California points the rate will be \$55.00, on sale July 14th and 15th, final return limit, three months. There will be cheap excursion rates from Denver to the Pacific coast.

For hotel reservations, detailed information, vacation suggestions, estimates, etc., write to DR. H. F. HOFFMAN,
Chairman Publicity Com., N. D. A.,
612 California building.

**INTERNATIONAL HYGIENE EXHIBITION, DRESDEN, 1911,
APPEAL.**

A grand International Hygiene Exhibition will be held in Dresden from May to October next year, under the immediate patronage of the King of Saxony. Among the many groups, which are to include all branches of hygiene, will be the special group, "Diseases of the Teeth." The undersigned are entrusted by the directorium of the exhibition with the organization of the scientific portion of this group. In accordance with the plans of the directorium the causes, the distribution, the prevention, and the treatment of diseases of the teeth will be given the first place in our scheme of arrangement, with special regard to social circles. We therefore appeal to our professional colleagues throughout the world to send us objects suitable for the scientific portion of this group, so as to enable us to present as complete and uniform a view as possible of the diseases of the teeth and of modern achievements in dental hygiene.

The "Federation Dentaire Internationale" has already promised its extremely valuable assistance. As intermediaries will act: The general secretary of the F. D. I., Dr. Schäffer-Stuckert of Frankfort, O. M., for the National Committee of the Federation, and Professor Dr. Jessen of Strasburg for the National committee of the H. C. F. D. I. As for Germany, Professor Dr. Dieck of Berlin has undertaken to communicate with exhibitors.

The following programme has been published:

I. Causes of Tooth Decay—

Micro-organisms.

Influence of mode of life and nourishment.

Relation to general diseases of the body.

Heredity.

II. Distribution of Tooth Diseases—

According to age, sex, occupation.

Significance of unsound teeth for health of nation.

III. Prophylaxis of Tooth Diseases.**IV. Prevention of Tooth Diseases—**

In the school.

In the army.

In factories and in institutions for the common welfare.

Through state insurance.

Objects for the Exhibition should be notified to the undersigned, if possible, not later than July 1, 1910, and sent to Dresden so as to arrive by the end of February, 1911.

The chairman of the sub-section, "Care of Youth," has requested our group to supply him with duplicates of our exhibits—if any are available and so far as they come within the province of dental clinics for schools—for exhibition in his sub-section. Professor Walkhoff is prepared to communicate to the directorium of the Exhibition all information concerning such duplicates for that (Care of Youth) or any other sub-section or group as well as all questions of a general nature.

Forms of notification may be obtained direct from the offices of the International Hygiene Exhibition, Dresden, Zwickauerstr. 35, and when filled up, should be addressed to the undersigned—except from places in Germany, whence they should be sent only to Professor Dr. Dieck, Berlin, Potsdamerstrasse 113.

The fullest possible co-operation on the part of the profession in all countries, as at the last International Congress in Berlin, will be of the greatest use, not only to the cause of our Exhibition to show the world that our profession, when judged by the exhibitions in other sub-sections or groups, is second to none in the domain of hygiene.

PROF. DR. MED. WALKHOFF, Munchen,

President.

PROF. DR. MED. DIECK, Berlin,

PROF. DR. MED. JESSEN, Strasburg,

DR. SCHAFFER-STUCKERT, Frankfort o. M.,

Vice-Presidents.

EVERYBODY'S CORNER.

Dentist Shot.—Dr. Elmer Hanks, a well known dentist in Muncie, Indiana, was shot by an unidentified man, May 22d. His condition is not serious.

False Teeth for Child of Thirteen.—Toothless since infancy, and living for thirteen years without ever partaking of solid food, Mary Strode of Glasgow, Ky., has been provided with a full set of false teeth.

Dentist Loses License.—The Supreme Court of Kansas City, Mo., has revoked the license of a dentist in that city. He asserted that his dollar teeth were par excellence and were guaranteed to "bite corn off the cob."

Dies in Dental Chair.—Sitting in a dentist's chair in Trinidad, Colo., Mrs. Gertrude Vaughn was stricken with paralysis of the heart and died instantly. Death occurred while the doctor and his assistant were administering chloroform.

Life Crew Rescues Dentist.—Dr. F. A. Thurston, 1561 East Fifty-seventh street, Chicago, Ill., was rescued by the Jackson Park Life Saving Crew June 4th, when his motor boat was disabled about a half mile from shore.

Dentists for Sailors.—A bill has been introduced in Tacoma, Washington, to provide dental surgeons for the navy.

Student Hangs Himself.—A student in the Louisville Dental College committed suicide May 10th by hanging himself from a rafter in the cellar of his home in Georgetown, Indiana. Suicide was due to despondency over ill health. The body was found by his mother.

Engagement Announced.—Dr. R. Fulton Patterson, a United States dental surgeon, in Walla Walla, Washington, has announced his engagement to Miss Anna Lubben of San Francisco, where Dr. Patterson formerly practiced. They will make their future home in Honolulu.

Dentist Retires.—Dr. Daniel B. Bower, a practicing dentist for the last forty-three years, in and surrounding Boyertown, Pa., has retired from the profession and will devote his time to the real estate and fire insurance business and the duties of a notary public.

Twins Born with Teeth.—Twins born to Mrs. Edward Hurd, 3657 Wentworth avenue, Chicago, Ill., were found to have two fully developed incisors each. The teeth were extracted by a local dentist.

Doctor Wins Liquor Case.—A dentist in Marion, Indiana, was acquitted May 17th by a circuit court jury of a charge of operating a "blind tiger."

Dental Furniture Sold.—A sale of the office fixtures of a dentist in Dixon, Ill., was held to satisfy an execution secured for rent. The doctor has been absent from his office for more than four months and no word has been received from him.

Dentist Sued.—J. F. Bradley, Memphis, Tenn., was awarded \$3,000 damages June 1st, in the circuit court, against a local dentist who pulled the wrong tooth.

Dentist Sued for Divorce.—A practicing dentist in Rollo, Missouri, has been sued for divorce by his wife, who alleges that the doctor threatened to shoot her.

Dentist Arrested.—A well known dentist in Parsons, Kansas, was arrested and fined fifteen dollars and costs for running his automobile without a license.

Dental Brigade Raids Schools.—A squadron of fifteen white-coated dentists, accompanied by Prof. E. H. Mark, superintendent of public

schools, Louisville, Ky., swept through the rooms of three schools, May 13th and inspected the mouths of every child in sight.

Dentist Painfully Burned.—Dr. G. A. Billow, a practicing dentist in Dayton, Ohio, was painfully burned June 18th when he attempted to extinguish a fire in his office caused by wax, which he had left on the gas flame too long.

Dentist Commits Suicide.—Dr. L. L. Lusk, 4134 Wentworth avenue, Chicago, Ill., committed suicide by drowning himself. His body was found June 20th at the foot of East Seventy-fifth street. The doctor had been drinking heavily and it is believed he committed suicide during a fit of remorse.

Dentist Injured.—Dr. J. E. Waldron, a dentist in Eau Claire, Wis., is minus a part of the first finger of his left hand as the result of an accident while inspecting the workings of a patent dentist's chair.

Young Dentist Missing.—Dr. Charles L. Miller, a young dentist in Philadelphia, Pa., has been missing since Sunday, June 5th. Neither his wife nor his professional associates know where he has gone.

Britzius-Glassnapp.—Dr. Wesley Britzius, a dentist in Rockford, Ill., was married June 11th to Miss Gertrude Glassnapp of Milwaukee.

. Advertises for an Eye Tooth.—Public curiosity and professional interest were aroused by a small "want ad" that appeared in the Chicago newspapers June 19th, which read as follows: "Wanted—Woman who will have pulled left upper eye tooth and sell to dentist; must be from healthy mouth. The dentist advertising was not named, but it is believed the tooth is to be transplanted in a patient's mouth.

Dentist's License Revoked.—The State Board of Dental Examiners of Indiana has revoked the license of a dentist in Indianapolis, Ind. He was charged before the board with wife desertion and with conduct unbecoming a member of the profession.

Dentist Buys Fruit Ranch.—Dr. Ackley, formerly a dentist in North Yakima, Wash., has recently purchased fourteen acres of a fruit ranch in the Moxee Valley, paying \$12,000 for the property.

A Dentist's Monument.—A monument to Horace Wells was unveiled March 7th in the Place Des Etats, Unis, Paris. Wells was born in Hartford, Conn., in 1815 and was a pioneer in the use of nitrous oxide gas in dental operations. He committed suicide in New York in 1848.

Dentist as Boatmaker.—Dr. W. G. Thomas, a practicing dentist in Grass Valley, Cal., is taking considerable pride in displaying to his friends, the twenty-foot launch which he completed June 15th. The doctor is having the launch transported by land to Marysville where he will launch it in the Feather river where he proposes spending his summers.

Dentist Commits Suicide.—Dr. Hugh Johnston, a practicing dentist in Griggsville, Ill., ended his life May 1st by draining the poisonous contents of a small vial. He never gained consciousness and died in a half hour after. The doctor has been in poor health for a long time and it is believed he became despondent.

IN MEMORIAM.

Dr. H. Stanford Burton, an American dental surgeon, practicing in Oxford, England, died June 24th. Authorities say death was due to poison self administered.

Dr. Philip T. Dedman, a practicing dentist in Kansas City, Mo., died June 22nd. The doctor was 61 years old and is survived by a widow and a son.

Dr. W. H. Todd, a well-known practitioner in Columbus, Ohio, died suddenly June 19th of heart disease. He is survived by a widow and two sons.

Dr. Philip S. Hart, a practicing dentist in Chicago, Ill., died at his home, June 20th. The doctor was 35 years old and is survived by a wife and two children.

Dr. Albert H. Brockway, one of the oldest dentists in America, and one of the founders of the Cremation Society, died June 22d, at his home in Brooklyn, N. Y.

Dr. Wm. Ballard, a practicing dentist in Chebanse, Ill., died at his home, June 22d. The cause of his death is not known. He is survived by a wife and two children.

Dr. L. B. Wood, a practicing dentist of Barre, Mass., died April 26th. The doctor was 43 years old and a Spanish war veteran having seen active service in the Philippines. He was in the expedition that first entered Manila.

Dr. Ezekiel H. Miller, a practicing dentist in Brooklyn, New York, died Monday, April 25th, in his seventy-fourth year. A widow, one son and two daughters survive him.

Wanted

For Sale

Exchange

NOTE:—Advertisements in this Department not exceeding fifty words will be published Free for three insertions for subscribers whose subscriptions have been paid for one year in advance.

Advertisements under regular heading from non-subscribers will be inserted for a charge of five cents per word. Remittance in full must accompany such copy.

Copy must be on file in our office by the 15th of the preceding month in which insertion is desired.

In answering these advertisements through the American Dental Journal, enclose your answer in stamped envelope with the advertiser's letters marked on the corner. No unstamped letters will be forwarded.

We are not responsible for any advertisement appearing in these columns.

PUBLISHERS.

**CASH FOR YOUR REAL ESTATE
OR BUSINESS**—No matter where located, if you want to buy, sell or exchange any kind of property or business anywhere at any price, address Frank P. Cleveland, Real Estate Expert, 2147 Adams Express building, Chicago, Ill.

WANTED—Dental practices.. My method of finding buyers is successful. No publicity for you. Write for information. Unlocated dentists write for bargain sale lists. Mention states desired. The Dentists' Middleman, C. M. Cryor, D. D. S., Box M., Franklin Grove, Ill.

FOR RENT—Old established dental parlors in a town where a good man can make money. Address at once. N. C. Jorgenson, Cando, N. D.

FOR SALE—Ethical practice and office outfit. Established four years. All strictly modern, associated with M. D., reasonable rent, good location, reason for selling, going into another business; inhabitants 18,000, 92 miles from Chicago. Address, care American Dental Journal, 39 State street, Chicago.

WANTED—A partnership with man with practice of over \$5,000 per year, in state of either West Virginia, Maryland or Tennessee, by a good, quick operator. Four years' practice in West Virginia. Single. Address, care of American Dental Journal.

FOR SALE—A \$5,000 Michigan advertising office, long lease, low rent; inventory, \$350. A bargain at \$500. Address No. 1000, care of American Dental Journal.

FOR SALE—Practice established ten years; going abroad; outfit modern; switchboard, compressed air, furnace, fountain, cuspidor, electric engine, lathe, etc. City, 50,000, Iowa. Reception room shared with a leading physician. Bargain; sacrifice, \$600 quick. Address, "Abroad," care American Dental Journal.

FOR SALE—One-story brick office building, with best practice in city of 3,500, located in heart of Blue Grass section of Kentucky. Fine opening for capable ethical man.

Address F. O. Humphreys, Harrodsburg, Ky.

FOR SALE—Modern outfit and practice in western Ohio town. No other permanently located dentist nearer than 15 miles. Cash income last year \$2,640. Practice growing and prospects better this year. Best reasons for selling. Terms to suit purchaser. Write at once. Address "L," care of American Dental Journal.

FOR SALE—I must sell quick on account of health, an ethical practice established in Chicago for 15 years. Have a modern outfit including Harvard chair, Clark double bowl glass cuspidor, new cabinet, electric engine and lathe and complete laboratory outfit. Will make reasonable terms to interested parties. Address "Kenwood," care American Dental Journal.

AUTOMOBILE FOR SALE — If you would like to have a car, let us tell you what we know about bargains in used cars. Do not forget that the depreciation of a new car is dead loss. Hundreds of secondhand rebuilt cars are being used every day and they do give satisfaction. Address "Auto," care American Dental Journal.

FOR SALE—One Ranson & Randolph cabinet No. 28; good as new; cost new \$35; will take \$15 cash. Address "Cabinet," care American Dental Journal.

PYORRHEA

Owing to the value of Sal Hepatica in the treatment of diseases of the uric acid diathesis it has been found specially beneficial in pyorrhœa alveolaris, a malady in which rheumatism and gout are potent causes. It contains the salts similar to the celebrated Bitter Waters of Europe, fortified by addition of Lithia and Sodium Phosphate. It stimulates liver, tones intestinal glands, purifies alimentary tract, improves digestion, assimilation and metabolism.

Write for free samples.

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Original and interesting articles on all topics pertaining to Dentistry.

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Won't YOU Please Help?

FOR SALE—Gasometer tank, iron stand complete with tubing and inhaler, ready to use. How much? Address "S. M." care of American Dental Journal.

WANTED—A-1 Prosthetic man, also first class operator. Ethical practice. Fine city and climate. Opportunity for right man. Address "Texas," care of American Dental Journal.

FOR SALE—Up-to-date dental outfit, town of 2,500, in the famous Palouse wheat belt, Washington. Modern electric equipment; practice established 20 years; \$1,250 cash will buy outfit; a snap for the right man. Don't write unless you mean business. Address Washington No. 1, care of American Dental Journal, 39 State street, Chicago, Ill.

FOR SALE—Dental office in a small town in western Iowa. Rich farming country. Only small amount of cash required; established six years. Owner desires to leave state and go west. Address for particulars, West, care American Dental Journal.

FOR SALE—Ethical practice and office outfit. Established four years. All strictly modern, associated with M. D., reasonable rent, good location, reason for selling, going into another business. Beloit, Wis., inhabitants 18,000, 92 miles from Chicago. Address "P. K." care American Dental Journal, 39 State street, Chicago.

FOR SALE—Or will exchange, dental practice located North side, Chicago, for practice in Texas. Will sell at \$500.00. Address "Rix," care of American Dental Journal.

WANTED—A good all around laboratory man. Will pay a good salary to the right man. Address "Laboratory," care American Dental Journal.

FOR SALE—In Oklahoma, a modern ethical dental practice, substantial cash business, \$4,000 per year, established nine years; population 12,500; only three other dentists, all congenial, with same fees. If you mean business, write now. Address Okla., care American Dental Journal.

FOR SALE—Advertising office and practice in Washington, D. C., on the largest business street. Office thoroughly equipped and outfit nearly new. A good investment for any advertising man. Address Interested, care American Dental Journal.

FOR SALE—I am going to retire from practice, I have a good outfit in a fine location that I will sell on easy terms at invoice to right party. Have been in practice eighteen years and can swing a large amount of business to buyer. Address "X," American Dental Journal, Chicago.

FOR SALE—Dental office and practice, established four years. Favorite Columbia Chair, Fountain Cuspidor, Clark R. & R. Cabinet, cost \$85, Hurd Gas outfit, Full Laboratory outfit and reception room furniture. Average receipts, \$275.00 per month. Price, \$700.00. Address "B. J. B." care of American Dental Journal.

FOR SALE—Dental office in town of 10,000, in Nebraska. Ethical practice, \$3,000 per year. Price, \$1,000. Will give terms. Address "Walk," care American Dental Journal.

Antiphlogistine

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olar abscess, pericementitis, gingivitis, facial neuralgia, inflamed gums caused by pyorrhea alveolaris, glandular inflammation caused by impacted third molars, and fractures of the jaw. When Antiphlogistine is applied early, dental surgeons have noted that resolution without suppuration has been the rule. Booklet on request.

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Possesses all the requisites necessary to counteract the various inflammatory conditions incident to alveolar abscess, pericementitis, gingivitis, facial neuralgia, inflamed gums caused by pyorrhea alveolaris, glandular inflammation caused by impacted third molars, and fractures of the jaw. When Antiphlogistine is applied early, dental surgeons have noted that resolution without suppuration has been the rule.

CBP 26-18

